

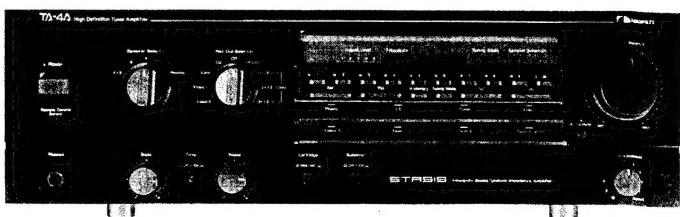


Nakamichi

Service Manual

Nakamichi TA-4 TA-4A TA-4E

High Definition Tuner Amplifier



CONTENTS

1.	General	1
2.	Removal Procedures	3
2. 1.	Top Cover Ass'y and Bottom Cover Ass'y	3
2. 2.	Front Panel Ass'y, Remote Control Sensor P.C.B. Ass'y and Power Indicator P.C.B. Ass'y	3
2. 3.	Front Chassis Ass'y and Control Switch & Display P.C.B. Ass'y	3
2. 4.	How to Disconnect/Connect Flat Cable	4
2. 5.	Video & Logic P.C.B. Ass'y	4
3.	Parts Location for Electrical Adjustment	5
4.	Electrical Adjustments	6
4. 1.	Power Amplifier Section	6
4. 2.	Tuner Section	6
4.2.1.	FM Tuner Section	6
4.2.2.	AM Tuner Section	8
5.	Mechanism Ass'y and Parts List	9
5. 1.	Synthesis	9
5. 2.	Front Panel Ass'y (A01)	10
5. 3.	Front Chassis Ass'y (A02)	10
5. 4.	Chassis Ass'y (A03)	11
5. 5.	Heat Sink Ass'y (B01)	13
6.	Mounting Diagrams and Parts List	14
6. 1.	Power Switch P.C.B. Ass'y	14
6. 2.	Speaker Terminal P.C.B. Ass'y	14
6. 3.	Pin Jack P.C.B. Ass'y	14
6. 4.	Headphone Jack P.C.B. Ass'y	14
6. 5.	Power Indicator P.C.B. Ass'y	14
6. 6.	Volume Indicator P.C.B. Ass'y	15
6. 7.	Volume Motor P.C.B. Ass'y	15
6. 8.	Transistor Joint P.C.B. Ass'y	15
6. 9.	Remote Control Sensor P.C.B. Ass'y	15
6. 10.	IF Band Switch P.C.B. Ass'y	15
6. 11.	Selector P.C.B. Ass'y	15
6. 12.	Remote Jack P.C.B. Ass'y	16
6. 13.	Volume P.C.B. Ass'y	16
6. 14.	Power Supply P.C.B. Ass'y	16
6. 15.	Standby P.C.B. Ass'y	17
6. 16.	Tone Control P.C.B. Ass'y	17
6. 17.	Control Switch & Display P.C.B. Ass'y	19
6. 18.	Tuner P.C.B. Ass'y	21
6. 19.	Video & Logic P.C.B. Ass'y	24
6. 20.	Main P.C.B. Ass'y	25
7.	Schematic Diagrams	27
7. 1.	IC Block Diagrams	27
7. 2.	Schematic Diagrams	30
7.2.1.	Tuner Section	30
7.2.2.	Video and Control Section	31
7.2.3.	Amplifier Section	32
8.	Wiring Diagram	33
9.	Block Diagrams	34
9. 1.	Tuner Section	34
9. 2.	Amplifier Section	35
10.	Specifications	36

1. GENERAL

1.1. CAUTIONS/WARNINGS

(1) Product Safety Notice

Parts marked with the symbol  in the schematic diagram have critical characteristics.

Use ONLY replacement parts recommended by the manufacturer.

It is recommended that the unit be operated from a suitable DC supply or batteries during initial check-out procedures.

(2) Leakage Current Check/Resistance Check

Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamp, or if the resistance from chassis to either side of the power cord is less than 240 k ohms, the unit is defective.

WARNING — DO NOT return the unit to the customer until the problem is located and corrected.

(3) Lithium Battery Caution

Use ONLY replacement parts recommended by the manufacturer. Replacement must be done only by qualified service personnel because of risk for explosion.

VARNING

Lithiumbatteri. Explosionsfara vid felaktig hantering. Byte får endast ske av sakkunnig personal enligt servicedokumentationens anvisningar.

ADVARSEL!

Lithiumbatterier. Eksplorationsfare. Udskiftning må kun foretages af en sagkyndig og som beskrevet i servicemanualen.
batterierne kun må udskiftes med batterier af samme fabrikat og type.

1.4. Package Ass'y

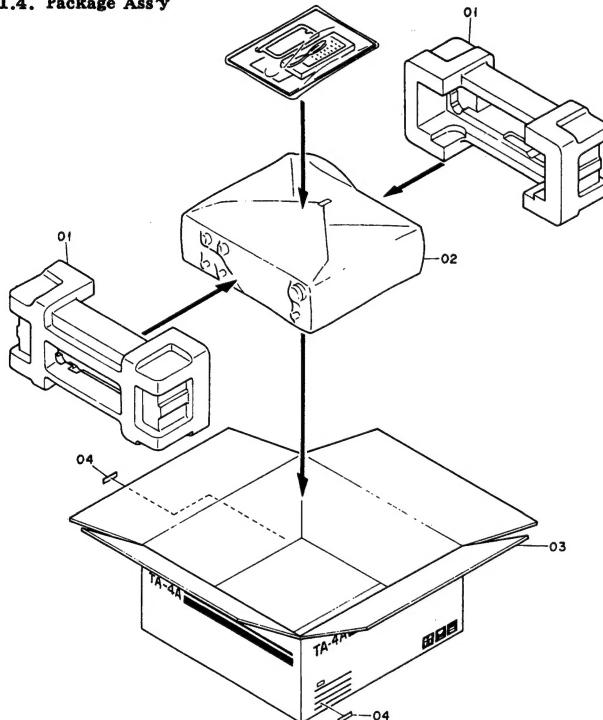


Fig. 1.1

1.2. Destination

TA-4: Other
TA-4A: U.S.A. & Canada
TA-4E: Europe

1.3. Voltage Selector

Voltage selector is installed on the rear panel of the TA-4 (Other). This voltage selector can select 110, 120, 220, or 240 V at customer's disposal.

1.5. Accessory Ass'y

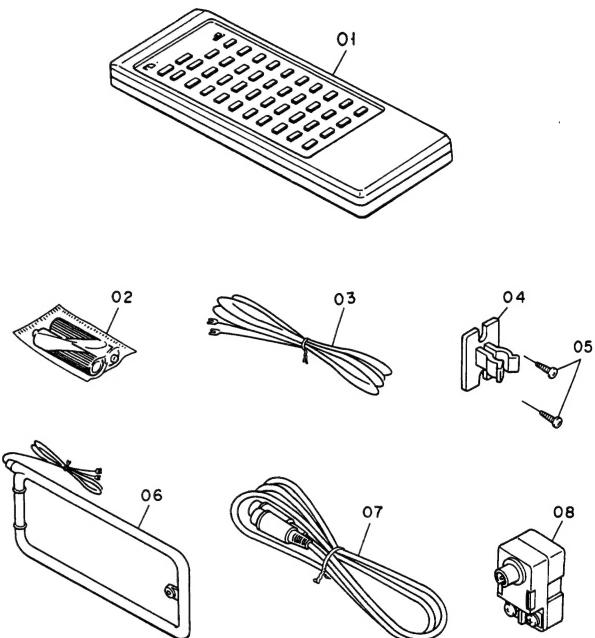


Fig. 1.2

Schematic Ref. No.	Part No.	Description	Q'ty	Schematic Ref. No.	Part No.	Description	Q'ty
		Package Ass'y				Accessory Ass'y	
01	0F04176A	Packing (TA-4/4E)	2	01	DA04183A	Remote Control Unit	1
	0F04175B	Packing (TA-4A)	2	02	OB90242A	Battery AA Type x 2 (TA-4/4E)	1
02	0F04212A	Soft Sheet (TA-4/4E)	1	03	OB90341A	Battery AA Type x 2 (TA-4A)	1
	0F04177A	Soft Sheet (TA-4A)	1	04	OB90320A	Feeder Antenna	1
03	0F04172A	Carton Box (TA-4)	1	05	OB90319A	AM Loop Antenna Holder	1
	0F04171A	Carton Box (TA-4A)	1	06	OE03496A	Screw 3.1x10 Ø (For Wood) (Black Chromate)	2
04	0F04174A	Carton Box (TA-4E)	1	07	OB90318A	AM Loop Antenna	1
	OM05281A	Serial Number Label (TA-4/4E)	2	08	OB83465A	8P DIN Cable	1
	OM05199A	Serial Number Label (TA-4A)	2		OB90194A	Antenna Adapter F YAE21-0120 (TA-4/4A)	1
					OB90208A	Antenna Adapter EP FA-322 (TA-4E)	1
					OD04872D	Owner's Manual (English/ German/French)	1
					OD04836C	Warranty Card (TA-4A)	1
					OJ05916A	Speaker Terminal Bush (TA-4E)	8

2. REMOVAL PROCEDURES

2.1. Top Cover Ass'y and Bottom Cover Ass'y

Refer to Fig. 2.1.

- (1) Loosen screws F01 (5 pcs.) and remove F02 (Top Cover Ass'y).
- (2) Loosen screws F03 (13 pcs.) and remove F04 (Bottom Cover Ass'y).
- (3) Loosen screws F05 (2 pcs.) and remove legs F06 (2 pcs.) in order to place the unit horizontally.

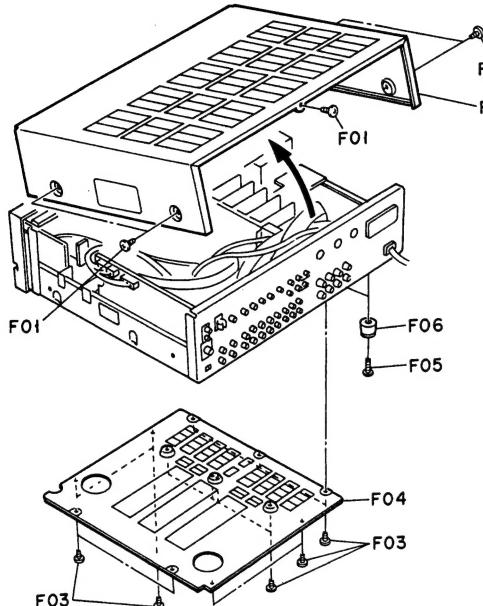


Fig. 2.1

2.2. Front Panel Ass'y, Remote Control Sensor P.C.B. Ass'y and Power Indicator P.C.B. Ass'y

Refer to Figs. 2.2.1 and 2.2.2.

- (1) Remove the Top Cover Ass'y and Bottom Cover Ass'y referring to item 2.1.
- (2) Loosen screws F01 (3 pcs.) and F02 (3 pcs.).
- (3) Remove F03 (Tone Volume Knob Ass'y, 2 pcs.), F04 (Selector Knob Ass'y, 2 pcs.), and F05 (Power Button). Note: F05 (Power Button) is hard to remove.
- (4) Turn F06 (Front Panel Ass'y) in the direction of the arrow.
- (5) Loosen a screw F07 and remove F08 (Remote Control Sensor P.C.B. Ass'y). Refer to Fig. 2.2.2.
- (6) Loosen a screw F09 and remove F10 (Power Indicator P.C.B. Ass'y).

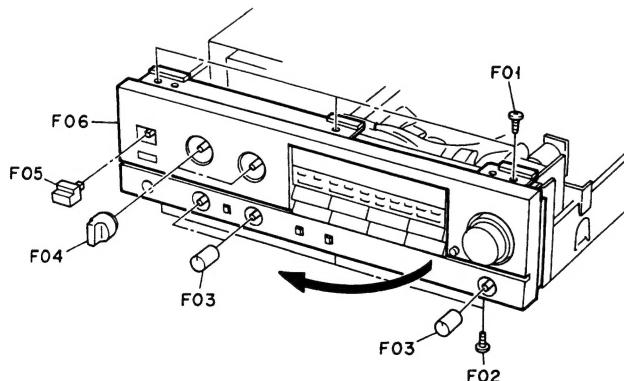


Fig. 2.2.1

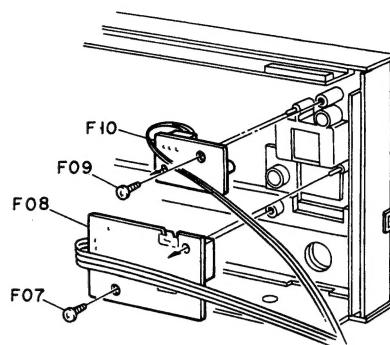


Fig. 2.2.2

2.3. Front Chassis Ass'y and Control Switch & Display P.C.B. Ass'y

Refer to Figs. 2.3.1 and 2.3.2.

- (1) Remove the Front Panel Ass'y referring to item 2.2.
- (2) Loosen screws F01 (4 pcs.) and remove F02 (Front Chassis Ass'y). Note: As the pins of F02 (Front Chassis Ass'y) are inserted into the chassis, pull F02 (Front Chassis Ass'y) toward you to separate it.
- (3) Loosen screws F03 (6 pcs.), unhook Claws (2 pcs.), and remove F04 (Control Switch & Display P.C.B. Ass'y). Refer to Fig. 2.3.2. Note: To disconnect flat cables of F04 (Control Switch & Display P.C.B. Ass'y) from Video & Logic P.C.B. Ass'y, refer to item 2.4.

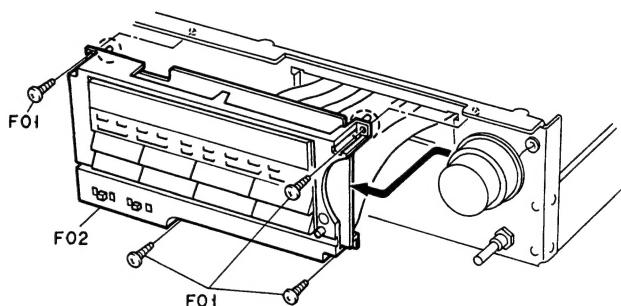


Fig. 2.3.1

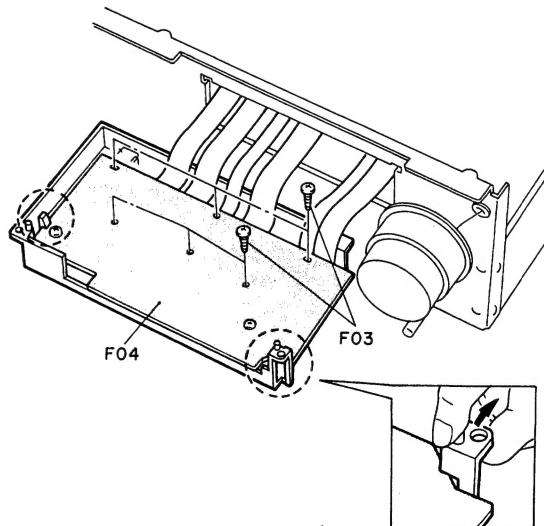


Fig. 2.3.2

2.4. How to Disconnect/Connect Flat Cable

Refer to Figs. 2.4.1 and 2.4.2.

- (1) To disconnect a flat cable, press down F01 (Connector Cover) strongly and remove F02 (Flat Cable). Refer to Fig. 2.4.1.
- (2) To connect a flat cable, straighten the leads of flat cable and position each lead to the grooves of connector. Refer to Fig. 2.4.2.
- (3) Press down F01 (Connector Cover) and insert F02 (Flat Cable).

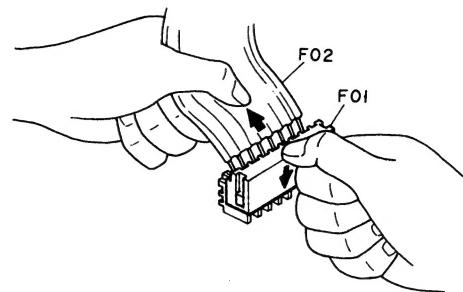


Fig. 2.4.1

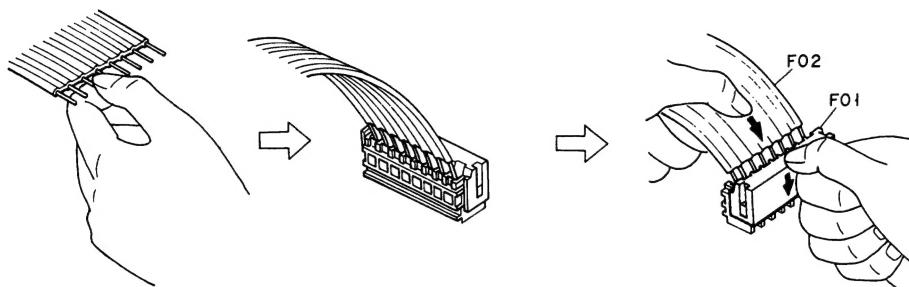


Fig. 2.4.2

2.5. Video & Logic P.C.B. Ass'y

Refer to Figs. 2.5.1 and 2.5.2.

- (1) Remove the Top Cover Ass'y referring to item 2.1.
- (2) Disconnect all connectors from F04 (Video & Logic P.C.B. Ass'y). Disconnect flat cables referring to item 2.4.
- (3) Loosen screw F01 (5 pcs.) and F02 (4 pcs.).
- (4) Unhook F03 using pliers.
- (5) Turn F04 (Video & Logic P.C.B. Ass'y) as shown in Fig. 2.5.2.

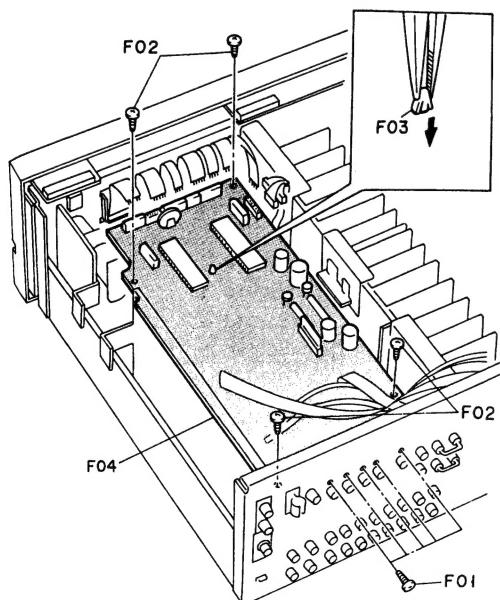


Fig. 2.5.1

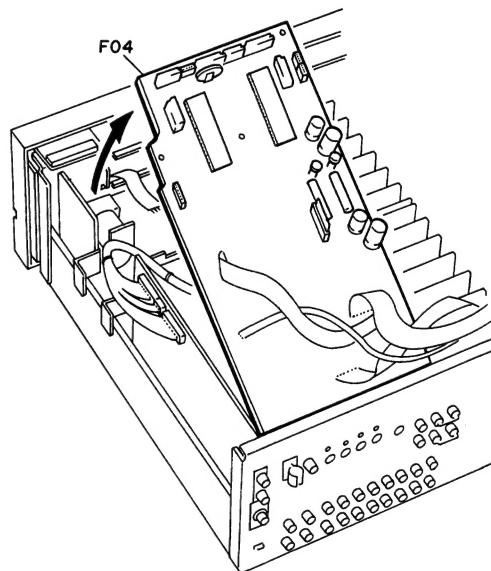


Fig. 2.5.2

3. PARTS LOCATION FOR ELECTRICAL ADJUSTMENT

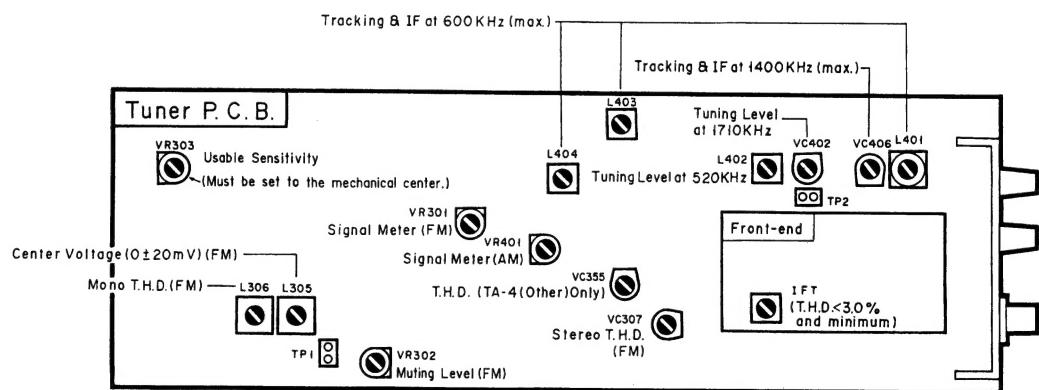
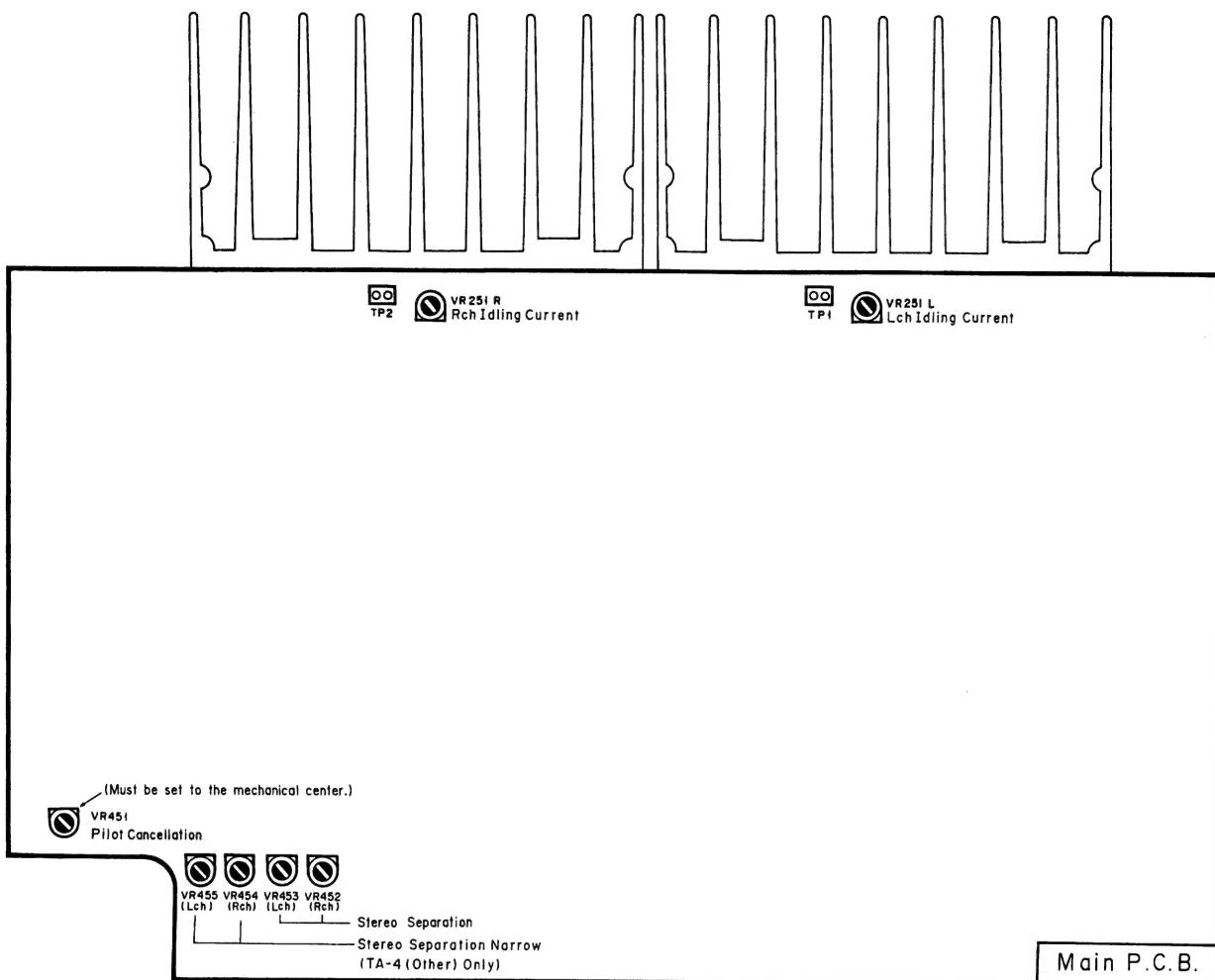


Fig. 3

4. ELECTRICAL ADJUSTMENTS

4.1. Power Amplifier Section

STEP	ITEM	SIGNAL SOURCE	OUTPUT CONNECTION	MODE	ADJUST-MENT	REMARKS
1	Idling Current	None	DC Voltmeter between both Pins of TP1 (Pins of TP2) on Main P.C.B.	Monitor Selector - CD Output Level - Min. Speaker Selector - OFF	Main P.C.B. VR251L VR251R	<ol style="list-style-type: none"> Insert shorting plugs into the CD Player Input Jacks. Turn ON the power and allow 3 minutes before adjustment. (Top Cover must be installed in this period of time.) Adjust VR251L (VR251R) to obtain 25 mV ± 5 mV on the DC voltmeter.

4.2. Tuner Section

Note: Adjustment should be made in a shielded room in principle.

4.2.1. FM Tuner Section

STEP	ITEM	OUTPUT CONNECTION	MODE	ADJUST-MENT	REMARKS
1	Preliminary Step	See Fig. 4.1	Tuner Amplifier Monitor Selector - Tuner Band Selector - FM Rec.Out Selector - Tuner Signal Generator Freq. - 98 MHz RF Level - 65 dBf Modulation - See REMARKS		<ol style="list-style-type: none"> Set the Tuner Amplifier as indicated in the MODE. Adjustment and confirmation should be made after tuning in to the set carrier frequency of the Signal Generator. <p>Note: Contents of modulation 1. For U.S.A., Canada & Other (Wide) o Stereo Audio: 1 kHz, 91% Pilot: 19 kHz, 9% o Mono Audio: 1 kHz, 100%</p> <p>2. For Europe & Other (Narrow) o Stereo Audio: 1 kHz, 51% Pilot: 19 kHz, 9% o Mono Audio: 1 kHz, 60%</p>
2	Usable Sensitivity Adjustment	Distortion Meter to Tape 1 Record Output Jacks	Tuner Amplifier Same as above Signal Generator Freq. - 98 MHz RF Level - 13.5 dBf Modulation - Mono	Tuner P.C.B. Front-end IFT	<ol style="list-style-type: none"> Set the Tuner Amplifier to Manual mode by pressing the Tuning Mode button. Adjust the IFT to obtain minimum distortion (total harmonic distortion (THD): 3% or less). Set the frequency of the Signal Generator to 90 MHz/106 MHz and check that the THD is 3% or less.
3	Center Voltage and THD Adjustment	DC Voltmeter between both Pins of TP1 on Tuner P.C.B. and Distortion Meter to Tape 1 Record Output Jacks	Tuner Amplifier Same as above Signal Generator Freq. - 98 MHz RF Level - 65 dBf Modulation - Mono	Tuner P.C.B. L305 L306	<ol style="list-style-type: none"> Set the Tuner Amplifier to Manual mode. Adjust L305 so that the reading on the DC voltmeter is 0 V ± 20 mV. Adjust L306 to obtain minimum distortion (THD: 0.07% or less). Repeat 2 and 3, if necessary.

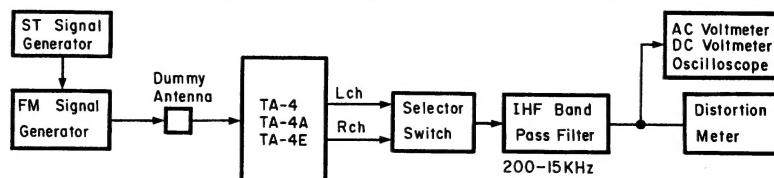


Fig. 4.1 FM Measuring Connection

STEP	ITEM	OUTPUT CONNECTION	MODE	ADJUST-MENT	REMARKS
4	Muting Level Adjustment	Oscilloscope to Tape 1 Record Output Jacks	Tuner Amplifier Same as above Signal Generator Freq. - 98 MHz RF Level - 30 dBf Modulation - Mono	Tuner P.C.B. VR302	<p>1. Set the Tuner Amplifier to Auto mode.</p> <p>2. Rotate VR302 fully counterclockwise. Then, return it clockwise gradually until a waveform appears on the oscilloscope.</p> <p>3. Decrease the RF level of the Signal Generator until the waveform on the oscilloscope disappears. Then increase the RF level gradually until a waveform appears again. At this point, check that the RF level of the Signal Generator is 30 dBf ± 6 dB.</p>
5	Signal Strength Meter Level Adjustment	None	Tuner Amplifier Same as above Signal Generator Freq. - 98 MHz RF Level - 56 dBf Modulation - Mono	Tuner P.C.B. VR301	<p>1. Set the Tuner Amplifier to Auto mode.</p> <p>2. Adjust VR301 so that all segments (1 - 5) of the signal strength meter light up.</p> <p>3. Decrease the RF level of the Signal Generator to distinguish the segment 5. Next, increase it gradually so that the segment 5 starts illuminating.</p> <p>At this point, check that the RF level of the Signal Generator is 52 to 64 dBf.</p>
6	Stereo Separation Adjustment	AC Voltmeter to Tape 1 Record Output Jacks	Tuner Amplifier Same as above Signal Generator Freq. - 98 MHz RF Level - 65 dBf Modulation - L or R only	Main P.C.B. VR452 (Rch) VR453 (Lch) VR454 (Rch) VR455 (Lch) (Other only)	<p>For U.S.A., Canada & Europe versions:</p> <p>1. Set the Tuner Amplifier to Auto mode.</p> <p>2. Apply modulation to only L channel.</p> <p>3. Adjust VR452 (Rch) to obtain minimum reading on the AC voltmeter at the R channel output jack.</p> <p>4. Apply modulation to only R channel.</p> <p>5. Adjust VR453 (Lch) to obtain minimum reading on the AC voltmeter at the L channel output jack.</p> <p>For Other version:</p> <p>1. Set the switches on the rear panel as follows: Freq. Step FM/AM - 100 kHz/10 kHz IF Band - Wide</p> <p>2. Apply the same procedures as above.</p> <p>3. Set the switches as follows: Freq. step FM/AM - 50 kHz/9 kHz IF Band - Narrow</p> <p>4. Apply the same procedures as mentioned above. Adjust VR454 (Rch) and VR455 (Lch) instead of VR452 and VR453.</p>
7	Stereo THD Adjustment	Distortion Meter to Tape 1 Record Output Jacks	Tuner Amplifier Same as above Signal Generator Freq. - 98 MHz RF Level - 65 dBf Modulation - Stereo	Tuner P.C.B. VC307 VC355 (Other Only)	<p>1. Set the Tuner Amplifier to Auto mode.</p> <p>2. Apply 1 kHz (L = -R) signal.</p> <p>3. Adjust VC307 to obtain minimum distortion.</p> <p>4. For Other version (Narrow) only, adjust VC355 to obtain minimum distortion.</p>

4.2.2. AM Tuner Section

Note: Frequencies for Europe & Other (Narrow) are indicated in parentheses.

STEP	ITEM	OUTPUT CONNECTION	MODE	ADJUST-MENT	REMARKS
1	Tuning Level Adjustment	DC Voltmeter between both Pins of TP2 on Tuner P.C.B.	Tuner Amplifier Monitor Selector -Tuner Band Selector - AM Rec.Out Selector - Tuner Signal Generator Freq. - 520 (522) kHz/ 1710 (1611) kHz Modulation - 400 Hz 30%	Tuner P.C.B. L402 VC402	1. Set the frequency of the Signal Generator to 520 kHz (522 kHz) and make tuning. 2. Adjust L402 to obtain 1.4 V ± 0.02 V on the DC voltmeter. 3. Change the frequency to 1710 kHz (1611 kHz) and make tuning. 4. Adjust VC402 to obtain 22 V ± 0.2 V on DC voltmeter. 5. Repeat 1 through 4 once.
2	Tracking and IF Adjustment	AC Voltmeter to Tape 1 Record Output Jacks	Tuner Amplifier Same as above Signal Generator Freq. - 600 (603) kHz/ 1400 (1404) kHz RF Level - 82 dB μ Modulation - 400 Hz 30%	Tuner P.C.B. L401 L403 L404 VC406	1. Set the measurement instruments as shown in Fig. 4.2. Set the distance between the AM Loop Antenna of the TA-4/4A/4E and a test loop to 60 cm. To obtain 56 dB μ /m at the AM Loop Antenna, set the RF level output of the AM Signal Generator to 82 dB μ as loss is 26 dB in this setting. 2. Set the frequency of the Signal Generator to 600 kHz (603 kHz) and make tuning. 3. Adjust L401 to obtain maximum reading on the AC voltmeter. 4. Adjust L403 to obtain maximum reading on the AC voltmeter. 5. Adjust L404 to obtain maximum reading on the AC voltmeter. 6. Set the frequency to 1400 kHz (1404 kHz) and make tuning. 7. Adjust VC406 to obtain maximum reading on the AC voltmeter. 8. Repeat 2 through 7 once.
3	Signal Strength Meter Level Adjustment	None	Tuner Amplifier Same as above Signal Generator Freq. - 1000 (999) kHz RF Level - 106 dB μ Modulation - 400 Hz 30%	Tuner P.C.B. VR401	1. With the same setting as in Step 2, set the RF level output of the AM Signal Generator to 106 dB μ in order to obtain 80 dB μ /m at the AM Loop Antenna. 2. Adjust VR401 so that the segment 5 of the signal strength meter starts illuminating. Note: Before adjustment, select AM mode and wait for more than three minutes.

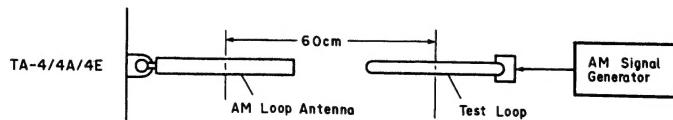


Fig. 4.2

5. MECHANISM ASS'Y AND PARTS LIST

5.1. Synthesis

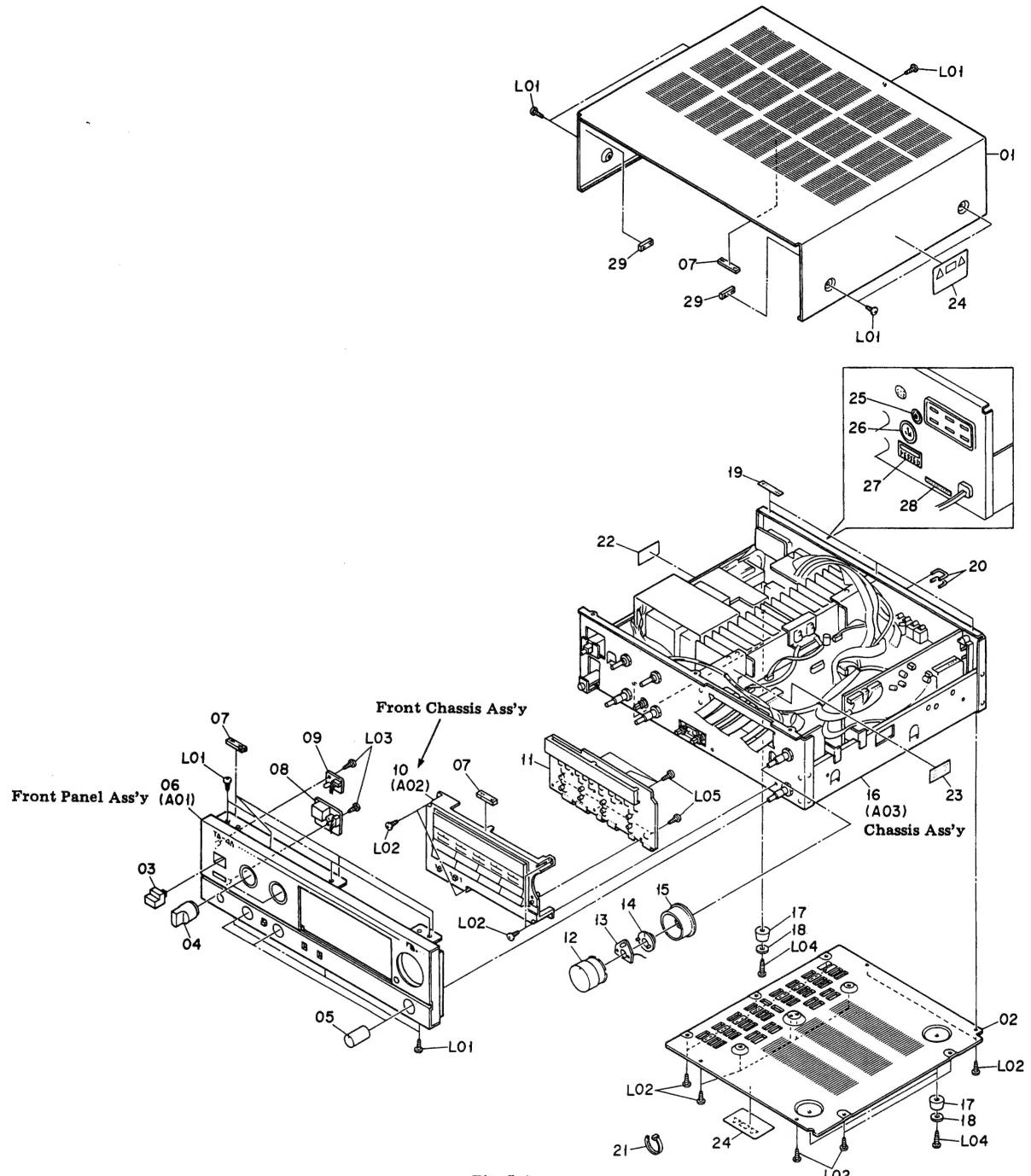


Fig. 5.1

Schematic Ref. No.	Part No.	Description	Q'ty
5.1. Synthesis			
		Synthesis	
01	OH05357A	Top Cover	1
02	OJ05626A	Bottom Cover	1
03	OH05340A	Power Button	1
04	HA05450A	Selector Knob Ass'y	2
05	HA05451A	Tone Volume Knob Ass'y	3
06	—	Front Panel Ass'y	1
07	OJ05633A	Top Cover Cushion	6
08	BA07297A	Remote Control Sensor P.C.B. Ass'y	1
09	BA07298A	Power Indicator P.C.B. Ass'y	1
10	—	Front Chassis Ass'y	1
11	BA07363A	Control Switch & Display P.C.B. Ass'y (TA-4/4E)	1
	BA07294A	Control Switch & Display P.C.B. Ass'y (TA-4A)	1
12	HA05465A	Master Volume Ass'y	1
13	BA07320A	Volume Indicator P.C.B. Ass'y	1
14	OH05356A	Volume Indicator P.C.B. Holder	1
15	HA05466A	Balance Knob Ass'y	1
16	—	Chassis Ass'y	1
17	OJ05420A	Leg N	4
18	OJ05461A	Leg Felt N	4
19	OJ05407A	Top Cover Sheet R	3
20	OB90342A	U-Shape Pin 14	2
21	OB90019A	Insu-Lock	42
22	OM05201B	Fuse Caution Label A (TA-4A)	1
23	OM05202A	Fuse Caution Label B (TA-4A)	1
24	OM04377B	Caution Label (TA-4A)	2
25	OM05148A	Production Date Label (TA-4A)	1
26	OM04113A	LA Label (TA-4 (U.S.A.))	1
27	OM04430A	Pass Label (TA-4/4E)	1
	OM05171A	Pass Label (TA-4A)	1
28	OM05281A	Serial Number Label (TA-4/4E)	1
	OM05199A	Serial Number Label (TA-4A)	1
29	OJ05706A	Side Rubber	2
L01	OE03433A	BT3x10 Binding Projected (Black Chromate)	11
L02	OE00857A	BT3x6 Binding	17
L03	OE00921A	BT3x8 Binding (Black Chromate)	2
L04	OE00888A	BT3x12 Binding	4
L05	OE00846A	BT3x8 Pan	6
5.2. Front Panel Ass'y (A01)			
A01	—	Front Panel Ass'y	1
01	OH05331A	Front Panel (TA-4)	1
	OH05329B	Front Panel (TA-4A)	1
	OH05330A	Front Paenl (TA-4E)	1
02	OH05103A	LED Lens B	2
03	OH05363C	Remote Control Lens	1
04	OJ05636A	Difuser Sheet C	1
05	OH05334A	Front Escutcheon L	1
06	OJ05750A	Push Knob Spring	1
07	OH05341A	Push Button	1
08	OH05333A	Front Escutcheon R	1
5.3. Front Chassis Ass'y (A02)			
A02	—	Front Chassis Ass'y	1
01	HA05478A	Video-2 Button Ass'y	1
02	HA05479A	Tape-1 Button Ass'y	1
03	HA05480A	Tape-2 Button Ass'y	1
04	HA05481A	Tape-3 Button Ass'y	1
05	HA05490A	Phono Button Ass'y	1
06	HA05491A	CD Button Ass'y	1
07	HA05492A	Tuner Button Ass'y	1
08	HA05477A	Video-1 Button Ass'y	1
09	OH05346B	Function Plate	1
10	OH05343A	Preset Lens A	11
11	OH05335A	Front Mold	1
12	OJ05633A	Top Cover Cushion	1
13	OH05344A	Display Lens	1
14	OH05338A	Preset Knob A	12
15	OH05339A	Preset Knob B	4
16	OJ05750A	Push Spring	2
17	OH05341A	Push Button	2
18	OH05342A	Muting Knob	1

5.2. Front Panel Ass'y (A01)

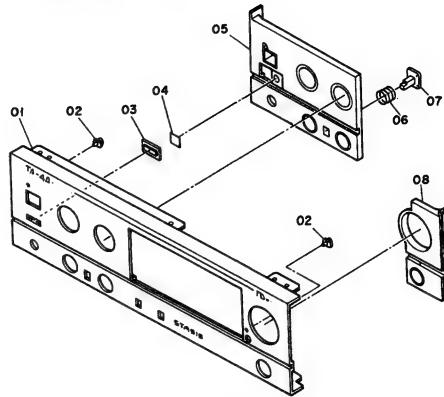


Fig. 5.2

5.3. Front Chassis Ass'y (A02)

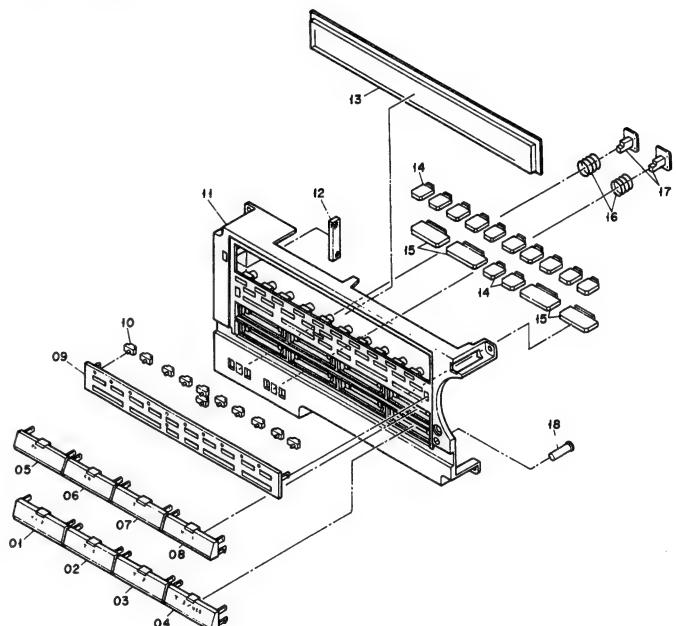


Fig. 5.3

5.4. Chassis Ass'y (A03)

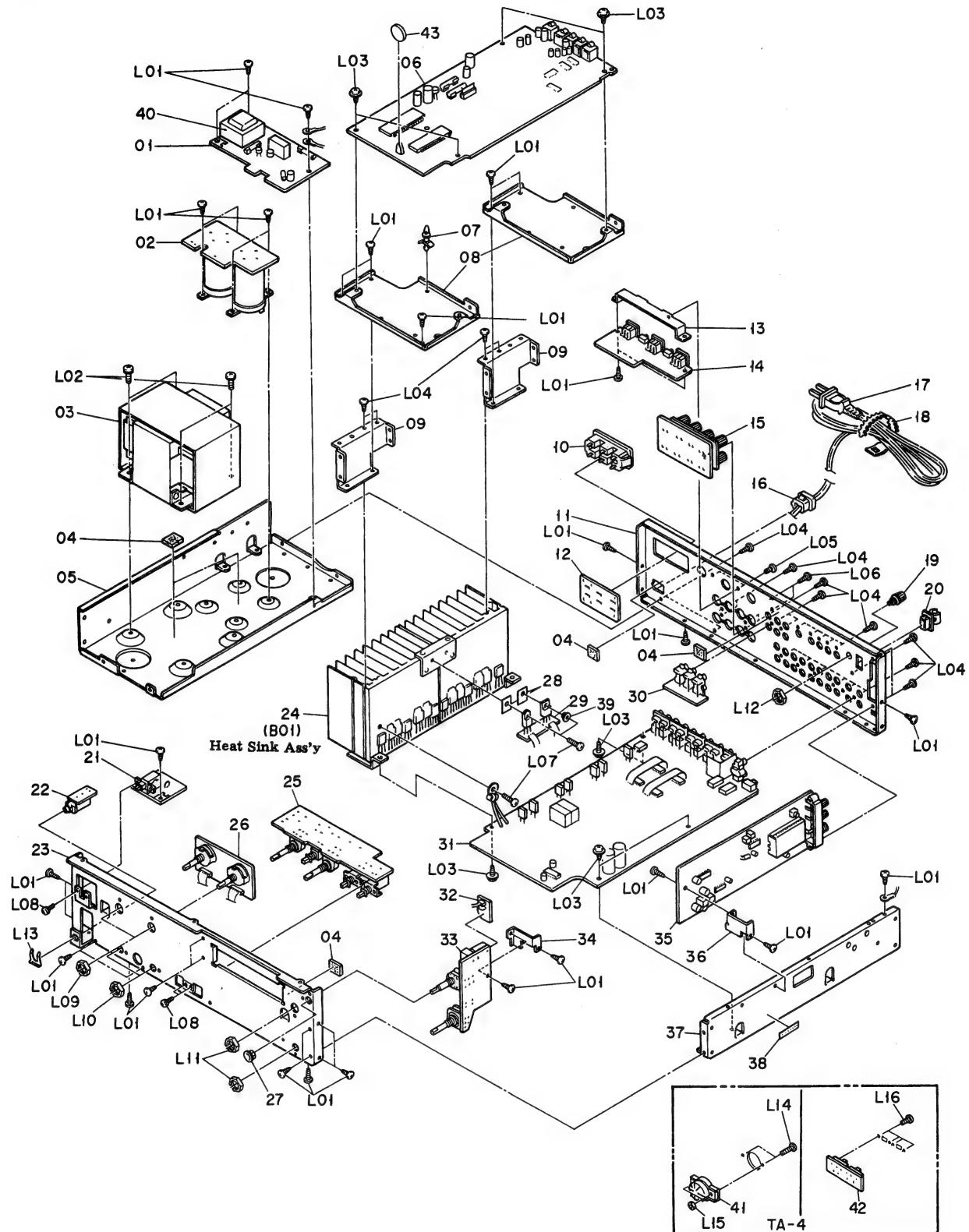


Fig. 5.4

Schematic Ref. No.	Part No.	Description	Q'ty	Schematic Ref. No.	Part No.	Description	Q'ty
5.4. Chassis Ass'y (A03)				L07 L08 L09 L10 L11 L12 L13 L14 L15 L16 — OE00174A	OE03138A OE00510A	M3x10 ⊕ Binding M3x8 ⊕ Pan (2A) Nut Nut Nut OJ05673A OJ05427A OE00986A OE03176A OE03202A	3 4 2 2 2 1 1 2 2 4 1 1
A03	—	Chassis Ass'y	1		L07	M3x10 ⊕ Binding	3
01	BA07364A	Standby P.C.B. Ass'y (TA-4)	1		L08	M3x8 ⊕ Pan (2A)	4
	BA07287A	Standby P.C.B. Ass'y (TA-4A)	1		L09	Nut	2
	BA07365A	Standby P.C.B. Ass'y (TA-4E)	1		L10	Nut	2
02	BA07284A	Power Supply P.C.B. Ass'y	1		L11	Nut	2
03	OB50118A	Power Transformer 110V—240V (TA-4)	1		L12	OJ05673A	1
	OB50117A	Power Transformer (TA-4A)	1		L13	OJ05427A	1
	OB50119A	Power Transformer 220V—240V (TA-4E)	1		L14	OE00986A	2
04	OJ05307A	BS Damper	5		L15	OE03176A	2
05	OJ05617B	Power Supply Chassis	1		L16	OE03202A	4
06	BA07360A	Video & Logic P.C.B. Ass'y (TA-4)	1		—	(Black Chromate) (TA-4)	
	BA07296A	Video & Logic P.C.B. Ass'y (TA-4A)	1		OE00174A	Earth Lug B-4 (TA-4E)	1
	BA07361A	Video & Logic P.C.B. Ass'y (TA-4E)	1				
07	OJ05637A	P.C.B. Spacer	1				
08	OJ05620B	Shield Plate	2				
09	OJ05622B	Heat Sink Holder A	2				
10	OB81706A	AC Outlet 3P (TA-4/4A)	1				
	OB81987A	AC Outlet S-16536 (TA-4E)	1				
11	OH05361A	Rear Panel (TA-4)	1				
	OH05358A	Rear Panel (TA-4A)	1				
	OH05359B	Rear Panel (TA-4E)	1				
12	OB60602A	AC Outlet P.C.B. (TA-4/4A)	1				
13	OJ05621A	DIN Jack Holder	1				
14	BA07323A	Remote Jack P.C.B. Ass'y	1				
15	BA07285A	Speaker Terminal P.C.B. Ass'y (TA-4/4A)	1				
	BA07555A	Speaker Terminal P.C.B. Ass'y (TA-4E)	1				
16	OB90280A	Cord Bushing (TA-4/4A)	1				
	OB90367A	Cord Bushing (TA-4E)	1				
17	OB80199A	AC Power Cord SPT-2 (TA-4/4A)	1				
	OB80124A	AC Power Cord (TA-4E)	1				
18	OJ05665A	Free-up Belt	1				
19	JA04383A	GND Terminal Ass'y	1				
20	OB90316A	AM Antenna Holder	1				
21	BA07283A	Power Switch P.C.B. Ass'y (TA-4/4A)	1				
	BA07553A	Power Switch P.C.B. Ass'y (TA-4E)	1				
22	BA07291A	Headphone Jack P.C.B. Ass'y	1				
23	OJ05619B	Front Chassis	1				
24	—	Heat Sink Ass'y	1				
25	BA07288A	Tone Control P.C.B. Ass'y (TA-4/4A)	1				
	BA07554A	Tone Control P.C.B. Ass'y (TA-4E)	1				
26	BA07286A	Selector P.C.B. Ass'y	1				
27	OJ05702A	Snap Bushing	1				
28	OJ05692A	Transistor Silicon Rubber B	2				
29	BA07331A	Transistor Joint P.C.B. Ass'y	1				
30	BA07290A	Pin Jack P.C.B. Ass'y	1				
31	BA07540A	Main P.C.B. Ass'y (TA-4)	1				
	BA07282A	Main P.C.B. Ass'y (TA-4A)	1				
	BA07541A	Main P.C.B. Ass'y (TA-4E)	1				
32	BA07289A	Volume Motor P.C.B. Ass'y	1				
33	BA07293A	Volume P.C.B. Ass'y	1				
34	OJ05632B	Volume Holder	1				
35	BA07357A	Tuner P.C.B. Ass'y (TA-4)	1				
	BA07295A	Tuner P.C.B. Ass'y (TA-4A)	1				
	BA07358A	Tuner P.C.B. Ass'y (TA-4E)	1				
36	OJ05631A	Tuner P.C.B. Holder	1				
37	OJ05618B	Side Chassis	1				
38	OM05210A	Amp. No. Seal (TA-4A)	1				
39	OB90369A	Transistor Bushing	1				
40	OB50115A	Sub Transformer 100V—240V (TA-4)	1				
	OB50114A	Sub Transformer (TA-4A)	1				
	OB50116A	Sub Transformer (TA-4E)	1				
41	OB70080A	Voltage Selector (TA-4)	1				
42	BA07543A	IF Band Switch P.C.B. Ass'y (TA-4)	1				
43	OB90241A	Lithium Battery	1				
L01	OE00857A	BT3x6 ⊕ Binding	34				
L02	OE03494A	M5x10 ⊕ Pan (2A)	4				
L03	OE03432A	BT3x6 ⊕ Tapping (Black Chromate)	8				
L04	OE00921A	BT3x8 ⊕ Binding (Black Chromate)	26				
L05	OE00818A	M3x8 ⊕ Binding (Black Chromate)	2				
L06	OE03433A	BT3x6 ⊕ Pan Projected (Black Chromate)	2				

5.5. Heat Sink Ass'y (B01)

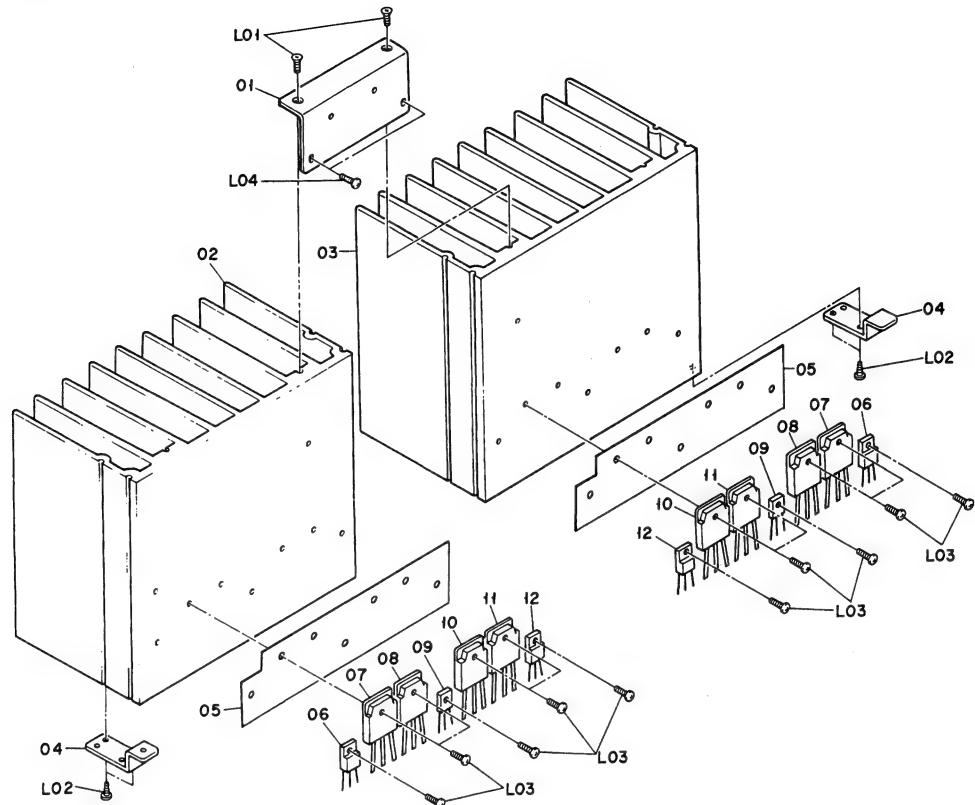


Fig. 5.5

Schematic Ref. No.	Part No.	Description	Q'ty
5.5. Heat Sink Ass'y (B01)			
B01	—	Heat Sink Ass'y	1
01	OJ05630A	Joint Holder	1
02	OJ05616A	Heat Sink	1
03	OJ05627A	Heat Sink R	1
04	OJ05623A	Heat Sink Holder B	2
05	OJ05700A	Transistor Silicon Rubber	2
06	OB10258A	Transistor 2SA1667 (O,Y) (Pair) [Q260L,R]	2
07	OB10250A	Transistor 2SC3856 (O,Y) (Pair) [Q264L,R]	2
08	OB10250A	Transistor 2SC3856 (O,Y) (Pair) [Q263L,R]	2
09	OB06316A	Transistor 2SD882 (R,S) (Pair) [Q258L,R]	2
10	OB10251A	Transistor 2SA1492 (O,Y) (Pair) [Q262L,R]	2
11	OB10251A	Transistor 2SA1492 (O,Y) (Pair) [Q261L,R]	2
12	OB10259A	Transistor 2SC4381 (O,Y) (Pair) [Q259L,R]	2
L01	OE03495A	BT3x10 Ⓛ Countersunk (Black Chromate)	2
L02	OE00921A	BT3x8 Ⓛ Binding (Black Chromate)	4
L03	OE03138A	M3x10 Ⓛ Binding	14
L04	OE00818A	M3x8 Ⓛ Binding	2
—	OB19011A	Thermistor [TH250]	1

6. MOUNTING DIAGRAMS AND PARTS LIST

Notes: 1. Mounting diagram shows a dip side view of the printed circuit board.

2. Diode is 1SS53, 1S1555, or 1SS176 unless otherwise specified.

3. Following transistors are interchangeable with each other.

a. 2SA733, 2SA608SP, 2SA1048, 2SA1175

b. 2SC945, 2SC536SP, 2SC2458, 2SC2785

4. Abbreviation for part name:

TR — Transistor, SiD — Silicon Diode, ZD — Zener Diode, Varicap — Variable Capacitance Diode

RK — Carbon Resistor, RM — Metal Film Resistor, RF — Fail Safe Type Resistor

CE — Electrolytic Capacitor, CML — Mylar Capacitor, CC — Ceramic Capacitor, CPP — PP Capacitor,

CMM — Metalized Mylar Capacitor, CSP — Polystyrene Capacitor, C — Mica Capacitor

6.1. Power Switch P.C.B. Ass'y

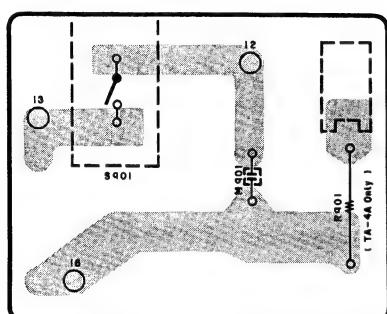


Fig. 6.1

6.2. Speaker Terminal P.C.B. Ass'y

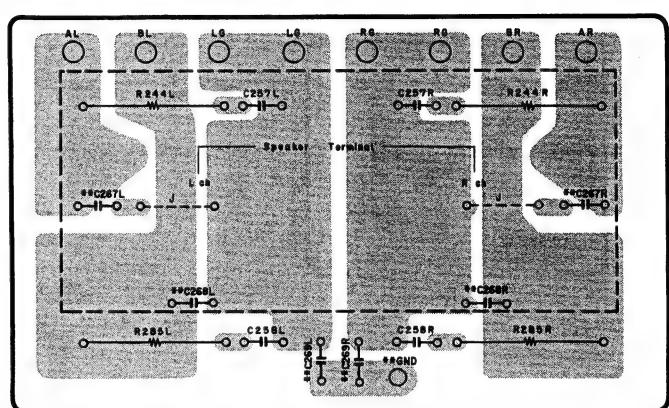


Fig. 6.2

6.3. Pin Jack P.C.B. Ass'y

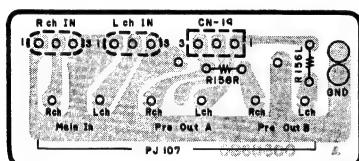


Fig. 6.3

6.4. Headphone Jack P.C.B. Ass'y

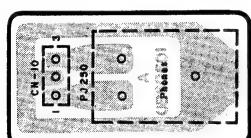


Fig. 6.4

6.5. Power Indicator P.C.B. Ass'y

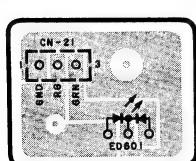


Fig. 6.5

Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description
6.1. Power Switch P.C.B. Ass'y			6.3. Pin Jack P.C.B. Ass'y		
R901	BA07283A BA07553A OB60593A OB20057A OB71008A OB41829A OJ05670A	Power Switch P.C.B. Ass'y (TA-4/4A) Power Switch P.C.B. Ass'y (TA-4E) Power Switch P.C.B. RK 4.7M 1/2W J (TA-4A) Power Switch SDDL1007U CC 4700P Earth Plate (TA-4/4A) (1)	R156L,R PJ107 CN19	BA07290A OB60600A OB09653A OB81949A OB81968A	Pin Jack P.C.B. Ass'y Pin Jack P.C.B., RK 100 1/6W J 6P Pin Jack 3P-T Post EH-3PREDB3B
S901				BA07291A OB60601A OB81757A OB83406B	Headphone Jack P.C.B. Ass'y Headphone Jack P.C.B., Headphone Jack 3P Connector 350mm
6.2. Speaker Terminal P.C.B. Ass'y			6.5. Power Indicator P.C.B. Ass'y		
R244L,R C257L,R C258L,R C267L,R C268L,R C269L,R CN13	BA07285A BA07555A OB60595A OB24199A OB24199A OB01609A OB01609A OB09290A OB09290A OB09290A OB83420B OB81950A	Speaker Terminal P.C.B. Ass'y (TA-4/4A) Speaker Terminal P.C.B. Ass'y (TA-4E) Speaker Terminal P.C.B. RF 22 1W J RF 22 1W J CML 0.01μ 50V K CML 0.01μ 50V K CC 0.01μ 50V Z (TA-4E) CC 0.01μ 50V Z (TA-4E) CC 0.01μ 50V Z (TA-4E) 6P Connector 350mm Speaker Terminal 8P (1)	PJ250 CN10	BA07298A OB60608A OB12421A OB83409A	Power Indicator P.C.B. Ass'y Power Indicator P.C.B., LED SPR-56PDWF GRN/RED 2P Connector Ass'y
ED601	CN21				

6.6. Volume Indicator P.C.B. Ass'y

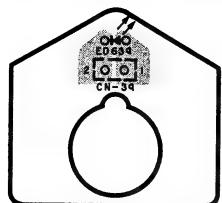


Fig. 6.6

6.7. Volume Motor P.C.B. Ass'y

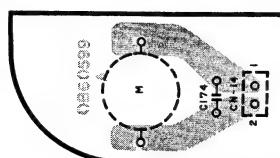


Fig. 6.7

6.8. Transistor Joint P.C.B. Ass'y

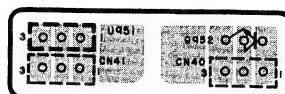


Fig. 6.8

6.9. Remote Control Sensor P.C.B. Ass'y

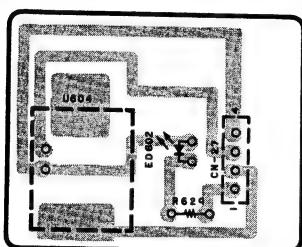


Fig. 6.9

6.10. IF Band Switch P.C.B. Ass'y

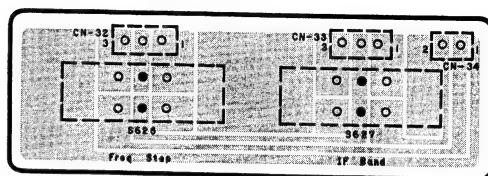


Fig. 6.10

6.11. Selector P.C.B. Ass'y

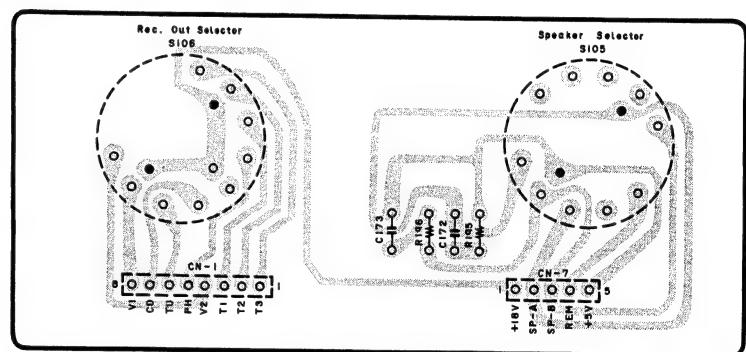


Fig. 6.11

Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description
6.6. Volume Indicator P.C.B. Ass'y			6.9. Remote Control Sensor P.C.B. Ass'y			6.11. Selector P.C.B. Ass'y		
ED639	BA07320A OB60611A OB12395A	Volume Indicator P.C.B. Volume Indicator P.C.B., LED SLR-34PC3F P-GRN	U604 ED602 R629 CN27	BA07297A OB60607A OB111511A OB12395A OB09662A OB83410A OJ05416A	Remote Control Sensor P.C.B. Ass'y Remote Control Sensor P.C.B., IC BX1407 LED SLR-34PC3F P-Green RK 240 1/6W J 4P Connector Ass'y 400mm LED Reflector (1)	R195, 196 C172, 173 S105	BA07286A OB60596A OB09653A OB41917A OB70134A S106 CN1 CN7	Selector P.C.B. Ass'y Selector P.C.B., RK 100 1/6W J CC 0.1μ 25V Z Rotary Switch SRRM 2-5 Rotary Switch SRRM 1-9 8P Connector Ass'y 350mm 5P Connector Ass'y 300mm
6.7. Volume Motor P.C.B. Ass'y			6.10. IF Band Switch P.C.B. Ass'y					
C174 CN14	BA07289A OB60599A OB41917A OB83401B	Volume Motor P.C.B. Volume Motor P.C.B., CC 0.1μ 25V Z 2P Connector 200mm	S626, 627 CN32 CN33 CN34	BA07543A OB60609B OB70137A OB83429B OB83428B OB83430B	IF Band Switch P.C.B. Ass'y (TA-4) IF Band Switch P.C.B., Slide Switch C.Cable Ass'y 3P C.Cable Ass'y 3P C.Cable Ass'y 2P			
U951 Q952 CN40, 41	BA07331A OB60613A OB11526A OB06452A OB83437A	Transistor Joint P.C.B. Ass'y Transistor Joint P.C.B., IC NJM78M12 TR 2SD1406 (Y) Flat Wire 3P						

6.12. Remote Jack P.C.B. Ass'y

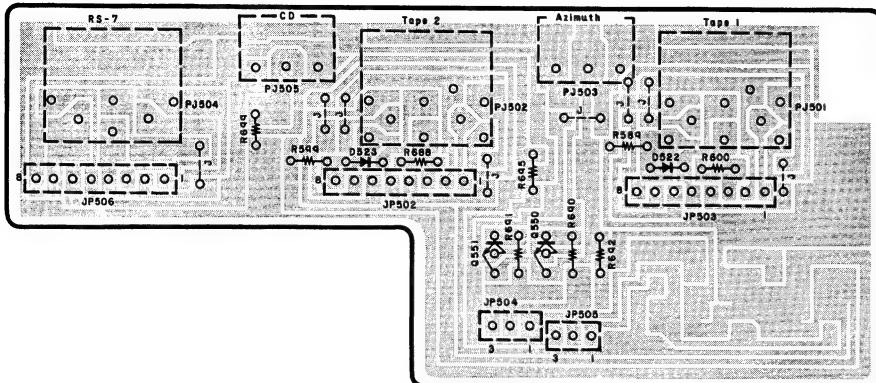


Fig. 6.12

6.13. Volume P.C.B. Ass'y

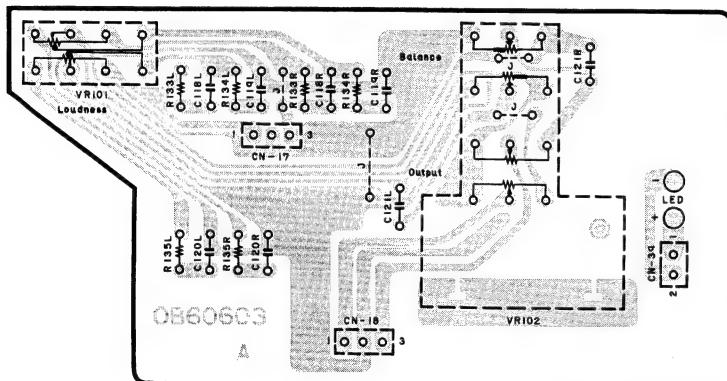


Fig. 6.13

6.14. Power Supply P.C.B. Ass'y

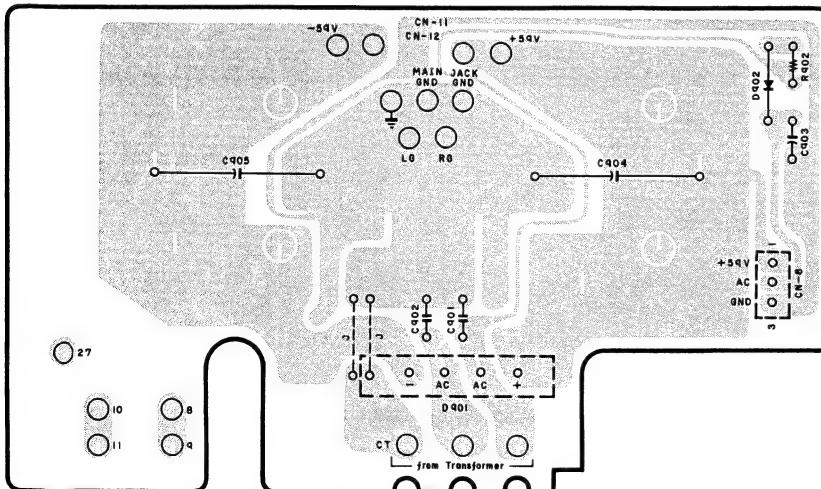


Fig. 6.14

Schematic Ref. No.	Part No.	Description
6.12. Remote Jack P.C.B. Ass'y		
	BA07323A	Remote Jack P.C.B. Ass'y
Q550,551	OB60614A	Remote Jack P.C.B.
D522,523	OB10113A	TR 2SC1815 (GR)
	OB06398A	SiD 1SS176
R589	OB09637A	RK 22 1/6W J
R599	OB09637A	RK 22 1/6W J
R600	OB09677A	RK 1K 1/6W J
R688	OB09677A	RK 1K 1/6W J
R690,691	OB09717A	RK 47K 1/6W J
R692	OB09637A	RK 22 1/6W J
R695	OB09709A	RK 22K 1/6W J
R699	OB09637A	RK 22 1/6W J
PJ501,502	OB81754A	8P Din Socket
PJ503	OB81952A	ST Mini Jack
PJ504	OB81953A	6P Din Socket
PJ505	OB81952A	ST Mini Jack
	OJ05621A	Remote Jack Holder (1)

6.13. Volume P.C.B. Ass'y

	BA07293A	Volume P.C.B. Ass'y
VR101	OB60603A	Volume P.C.B.
VR102	OB30091A	VR 300K
R133L,R	OB30092A	Volume 250KMIN+50KB
R134L,R	OB09709A	RK 22K 1/6W J
R135L,R	OB09699A	RK 8.2K 1/6W J
C118L,R	OB09707A	RK 18K 1/6W J
C119L,R	OB41274A	CML 1000P 50V J
C120L,R	OB41290A	CML 0.022μ 50V J
C121L,R	OB41298A	CML 0.1μ 50V J
CN17	OB41702A	CSP 22P 50V J
	OB83422B	3P Connector 400mm
CN18	OB81760A	3P-T Post EH-3P WHT
CN39	OB83424A	Cable Ass'y 2P

6.14. Power Supply P.C.B. Ass'y

	BA07284A	Power Supply P.C.B. Ass'y
D901	OB60594B OB12617A	Power Supply P.C.B. SiD KBU8D
D902	OB12586A	SiD 1N4002
R902	OB09711A	RK 27K 1/6W J
C901,902	OB41537A	CML 0.1μ 100V J
C903	OB40126A	CE 4.7μ 63V
C904,905	OB40511A	CE 1200μ 71V
CN8	OB83407B	3P Connector Ass'y 350mm
CN11	OB83418B	2P Connector Ass'y 400mm
CN12	OB83419B	2P Connector Ass'y 500mm
	OJ05625B OJ05701A	Heat Sink (1) Transister Silicon Rubber D (1)

6.15. Standby P.C.B. Ass'y

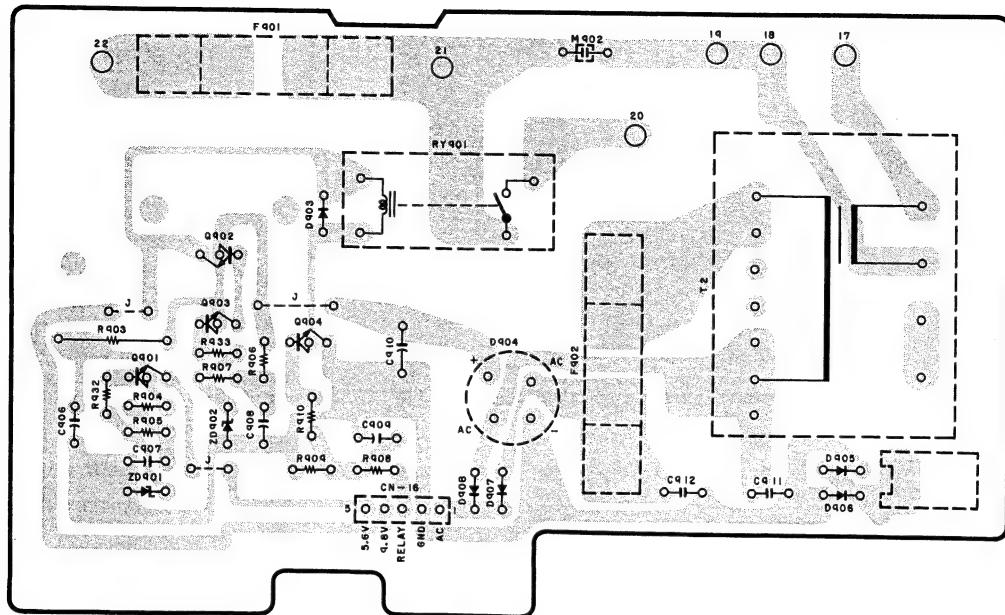


Fig. 6.15

6.16. Tone Control P.C.B. Ass'y

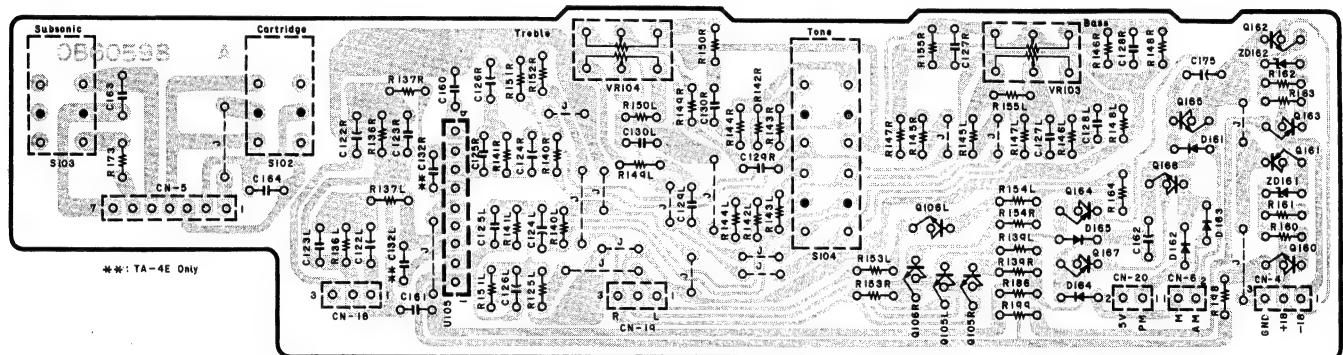


Fig. 6.16

Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description
6.15. Standby P.C.B. Ass'y			6.16. Tone Control P.C.B. Ass'y		
	BA07364A	Standby P.C.B. Ass'y (TA-4)		BA07288A	Tone Control P.C.B. Ass'y (TA-4/4A)
	BA07287A	Standby P.C.B. Ass'y (TA-4A)		BA07554A	Tone Control P.C.B. Ass'y (TA-4E)
	BA07365A	Standby P.C.B. Ass'y (TA-4E)		OB60598A	Tone Control P.C.B.
	OB60597A	Standby P.C.B.	U105	OB11512A	IC NJM5532SD
Q901	OB06066A	TR 2SD471 (L,M) (TA-4)	Q105L,R	OB06299A	TR 2SC2878
	OB06100A	TR 2SC945 (K,P,Q) (TA-4/4E)	Q106L,R	OB06299A	TR 2SC2878
Q902	OB06452A	TR 2SD1406 (TA-4/4E)	Q160	OB06142A	TR 2SC2240 (BL)
	OB06066A	TR 2SD471 (L,M) (TA-4A)	Q161	OB06013A	TR 2SA733 (P,Q)
Q903	OB06100A	TR 2SC945 (K,P,Q)	Q162	OB06100A	TR 2SC945 (K,P,Q)
Q904	OB06322A	TR 2SC2002 (K,L)	Q163	OB10050A	TR 2SA970 (BL)
ZD901	OB12619A	ZD 6.8V	Q164	OB10053A	TR DTA144ES
			Q165	OB10062A	TR DTC144ES
			Q166	OB10062A	TR DTC144ES
			Q167	OB10053A	TR DTA144ES
			ZD161,162	OB12177A	ZD 13V
ZD902	OB12623A	RD6.8ES-T1B2 ZD 11V	D161,162	OB06398A	RD13JS-T1B2
		RD11ES-T1B2	D163,164	OB06398A	SID 1SS176
D903	OB06398A	SID 1SS176	D165	OB06398A	SID 1SS176
D904	OB12604A	SID W02M	VR103	OB30093A	Volume 50KCx2
D905,906	OB06398A	SID 1SS176	VR104	OB30094A	Volume 100KCx2
D907,908	OB12624A	Sid 1SS177 (TA-4)	R136L,R	OB09727A	RK 120K 1/6W J
	OB06398A	Sid 1SS176 (TA-4/4E)	R137L,R	OB25099A	RM 100 1/4W F
			R139L,R	OB09717A	RK 47K 1/6W J
			R140L,R	OB09725A	RK 100K 1/6W J
			R141L,R	OB09749A	RK 1M 1/6W J
R903	OB24200A	RF 56 1W J	R142L,R	OB22570A	RM 12.0K 1/4W F
R904,905	OB09677A	RK 1K 1/6W J	R143L,R	OB22570A	RM 12.0K 1/4W F
R906,907	OB09669A	RK 470 1/6W J	R144L,R	OB25195A	RM 1.00K 1/4W F
R908	OB09677A	RK 1K 1/6W J	R145L,R	OB09703A	RK 12K 1/6W J
R909	OB09709A	RK 22K 1/6W J	R146L,R	OB09705A	RK 15K 1/6W J
R910	OB09629A	RK 10K 1/6W J	R147L,R	OB09669A	RK 470 1/6W J
R932,933	OB09677A	RK 1K 1/6W J	R148L,R	OB09684A	RK 2K 1/6W J
C906	OB40121A	CE 220 μ 50V (TA-4)	R149L,R	OB09687A	RK 2.7K 1/6W J
		CE 220 μ 16V (TA-4A/4E)	R150L,R	OB09673A	RK 680 1/6W J
C907	OB40116A	CE 10 μ 50V (TA-4)	R151L,R	OB09725A	RK 100K 1/6W J
	OB01412A	CE 10 μ 16V (TA-4/4E)	R152L,R	OB25195A	RM 1.00K 1/4W F
C908	OB40119A	CE 47 μ 50V (TA-4)	R153L,R	OB09653A	RK 100 1/6W J
	OB01403A	CE 47 μ 16V (TA-4A/4E)	R154L,R	OB09717A	RK 47K 1/6W J
C909	OB01836A	CE 47 μ 10V	R155L,R	OB09723A	RK 82K 1/6W J
C910	OB40335A	CE 470 μ 50V (TA-4)	R160	OB09685A	RK 2.2K 1/6W J
	OB40081A	CE 470 μ 16V (TA-4A/4E)	R161,162	OB09695A	RK 5.6K 1/6W J
		CE 47 μ 16V (TA-4A/4E)	R163	OB09685A	RK 2.2K 1/6W J
			R164	OB09725A	RK 100K 1/6W J
C909	OB01836A	CE 47 μ 10V	R173	OB09731A	RK 180K 1/6W J
C910	OB40335A	CE 470 μ 50V (TA-4)	R186	OB09725A	RK 100K 1/6W J
	OB40081A	CE 470 μ 16V (TA-4A/4E)	R186	OB09645A	RK 47 1/6W J
		CE 470 μ 16V (TA-4A/4E)	R198,199	OB40612A	CE 0.33 μ 50V (LN)
C911,912	OB01603A	CML 0.1 μ 50V K	C122L,R	OB41788A	CSP 220P 50V J
RY901	OB90332A	Relay 12V 12MB-NR-UL,TV-8 (TA-4/4A)	C123L,R	OB09933A	CE 2.2 μ 50V (LN)
	OB90334A	Relay 12V 12MB-VD3 TV-5 (TA-4E)	C124L,R	OB09933A	CSP 47P 50V J
	OB90354A	Fuse 6A 125V (TA-4/4A)	C125L,R	OB41922A	CE 2.2 μ 50V (LN)
	OB90356A	Fuse T3.15A 250V (TA-4E)	C126L,R	OB09933A	CML 0.068 μ 50V J
F902	OB90335A	Fuse 0.5A 250V (TA-4/4A)	C127L,R	OB41296A	CML 0.39 μ 50V J
	OB90288A	Fuse T500mA 250V (TA-4E)	C128L,R	OB41305A	CML 0.2700P 50V J
CN16	OB83414B	5P Connector Ass'y 400mm	C129L,R	OB09189A	CML 0.018 μ 50V J
M902	OB41829A	CC 4700P 100V Z	C130L,R	OB05832A	CC 100P 50V J
	OE00510A	M3x8 \oplus Pan (2A) (TA-4) (1)	C132L,R	OB41735A	(TA-4E)
	OJ05670A	Earth Plate (1)	C160,161	OB41298A	CML 0.1 μ 50V J
	OJ05846A	Heat Sink	C162	OB01400A	CE 100 μ 16V
	OB80204A	(TA-4) (1)	C163,164	OB01603A	CML 0.1 μ 50V K
	OB81930A	Terminal Pin (K) (TA-4) (4)	C175	OB01405A	CE 1 μ 50V
	OB81848A	Fuse Holder SN-5051 (TA-4/4A) (4)	S102,103	OB70132A	Push Switch SPUN2-2
	OM03936B	Fuse Holder Z-N1152 (TA-4E) (4)	S104	OB70133A	Push Switch SPUN4-2
	OM04096C	Fuse Label T3.15A 250V (TA-4E) (1)	CN4	OB83408B	3P Connector Ass'y 450mm
		Fuse Label T500mA 250V (TA-4E) (2)	CN5	OB83415B	7P Connector Ass'y 330mm
			CN6	OB83404B	2P Connector Ass'y 350mm
			CN18	OB83421B	3P Connector Ass'y 250mm
			CN19	OB83423B	3P Connector Ass'y 400mm
			CN20	OB83403B	2P Connector Ass'y 270mm

6.17. Control Switch & Display P.C.B. Ass'y

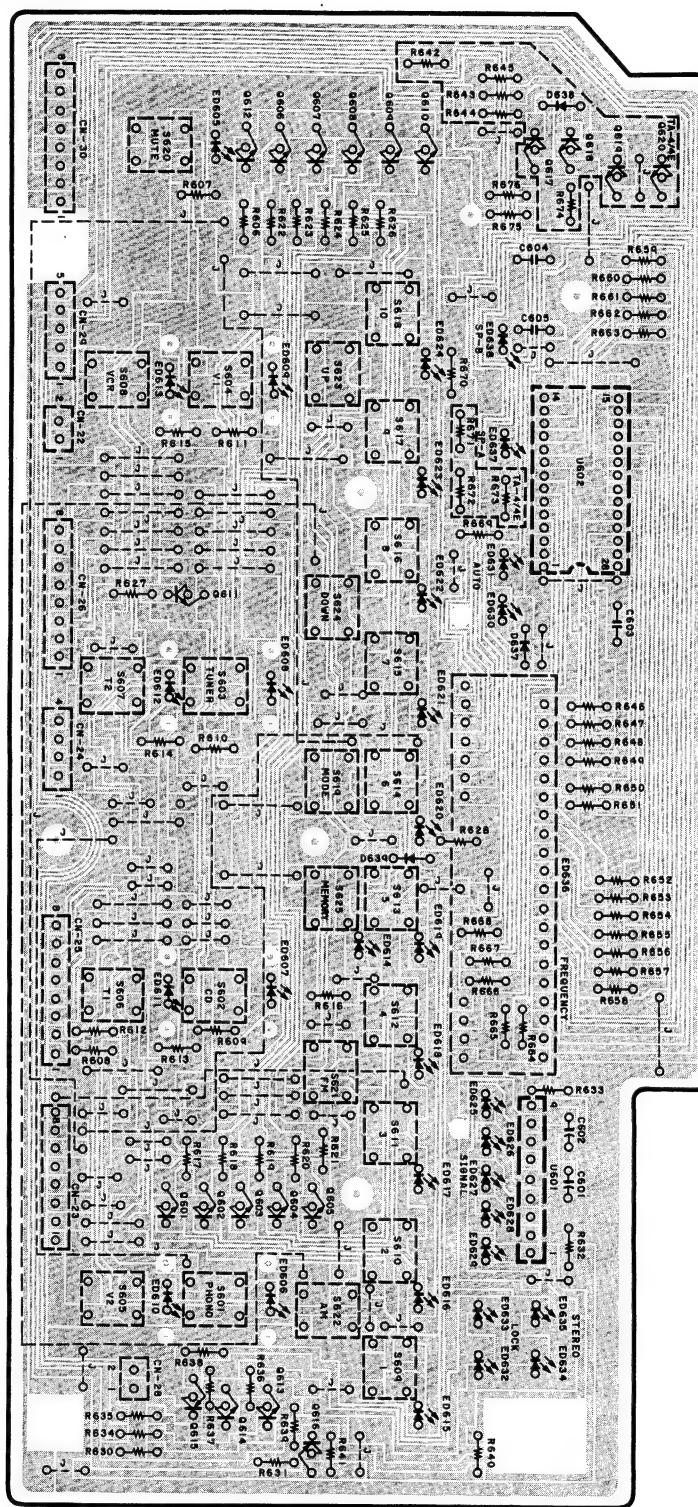


Fig. 6.17

Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description
6.17. Control Switch & Display P.C.B. Ass'y					
	BA07363A	Control Switch & Display P.C.B. Ass'y (TA-4/4E)	R636,637	OB09655A	RK 120 1/6W J
	BA07294A	Control Switch & Display P.C.B. Ass'y (TA-4A)	R638	OB09655A	RK 120 1/6W J
	OB60604B	Control Switch & Display P.C.B.	R639,640	OB09717A	RK 47K 1/6W J
U601	OB11244A	IC LB1413N	R641	OB09717A	RK 47K 1/6W J
U602	OB11523A	IC TD6301AN	R642	OB09701A	RK 10K 1/6W J
Q601,602	OB10257A	TR 2SC2021 (S)	R643,644	OB09693A	(TA-4/4E) RK 4.7K 1/6W J
Q603,604	OB10257A	TR 2SC2021 (S)	R645	OB09693A	(TA-4/4E) RK 4.7K 1/6W J
Q605,606	OB10257A	TR 2SC2021 (S)	R646,647	OB09662A	(TA-4/4E) RK 240 1/6W J
Q607,608	OB10257A	TR 2SC2021 (S)	R648,649	OB09662A	RK 240 1/6W J
Q609,610	OB10257A	TR 2SC2021 (S)	R650,651	OB09662A	RK 240 1/6W J
Q611,612	OB10257A	TR 2SC2021 (S)	R652,653	OB09662A	RK 240 1/6W J
Q613,614	OB10257A	TR 2SC2021 (S)	R654,655	OB09662A	RK 240 1/6W J
Q615,616	OB10256A	TR 2SA937 (R)	R656,657	OB09662A	RK 240 1/6W J
Q617,618	OB10257A	TR 2SC2021 (S)	R658,659	OB09662A	RK 240 1/6W J
		(TA-4/4E)	R660,661	OB09662A	RK 240 1/6W J
Q619,620	OB10257A	TR 2SC2021 (S)	R662,663	OB09662A	RK 240 1/6W J
D637	OB06398A	SID 1SS176	R664,665	OB09662A	RK 240 1/6W J
D638	OB06398A	SID 1SS176 (TA-4/4E)	R666	OB09662A	RK 240 1/6W J
D639	OB06398A	SID 1SS176 (TA-4/4E)	R667	OB09655A	RK 120 1/6W J
ED605,606	OB12395A	LED SLR-34PC3F P-Green	R668	OB09679A	RK 1.2K 1/6W J
ED607,608	OB12395A	LED SLR-34PC3F P-Green	R669,670	OB09668A	RK 430 1/6W J
ED609,610	OB12395A	LED SLR-34PC3F P-Green	R671,672	OB09655A	RK 120 1/6W J
ED611,612	OB12395A	LED SLR-34PC3F P-Green	R673	OB09662A	(TA-4/4E) (TA-4/4E)
ED613,614	OB12395A	LED SLR-34PC3F P-Green	R674	OB09655A	RK 120 1/6W J
ED615,616	OB12395A	LED SLR-34PC3F P-Green	R675,676	OB09659A	(TA-4/4E) RK 180 1/6W J
ED617,618	OB12395A	LED SLR-34PC3F P-Green	C601,602	OB40162A	CE 10μ 16V
ED619,620	OB12395A	LED SLR-34PC3F P-Green	C603	OB41787A	CC 0.022μ 25V Z
ED621,622	OB12395A	LED SLR-34PC3F P-Green	C604,605	OB41911A	CC 470P 50V J
ED623,624	OB12395A	LED SLR-34PC3F P-Green	S601,602	OB70043A	Tact Switch SKHHPM
ED625,626	OB12625A	LED SLR-34PG3F P-Green	S603,604	OB70043A	Tact Switch SKHHPM
ED627,628	OB12625A	LED SLR-34PG3F P-Green	S605,606	OB70043A	Tact Switch SKHHPM
ED629,630	OB12625A	LED SLR-34PG3F P-Green	S607,608	OB70043A	Tact Switch SKHHPM
ED631,632	OB12625A	LED SLR-34PG3F P-Green	S609,610	OB70043A	Tact Switch SKHHPM
ED633,634	OB12625A	LED SLR-34PG3F P-Green	S611,612	OB70043A	Tact Switch SKHHPM
ED635	OB12625A	LED SLR-34PG3F P-Green	S613,614	OB70043A	Tact Switch SKHHPM
ED636	OB12616A	LED Display LTF2501 (TA-4/4E)	S615,616	OB70043A	Tact Switch SKHHPM
	OB12608A	LED Display LTF2401 (TA-4A)	S617,618	OB70043A	Tact Switch SKHHPM
ED637,638	OB12625A	LED SLR-34PG3F P-Green	S619,620	OB70043A	Tact Switch SKHHPM
R606	OB09707A	RK 18K 1/6W J	S621,622	OB70043A	Tact Switch SKHHPM
R607	OB09662A	RK 240 1/6W J	S623,624	OB70043A	Tact Switch SKHHPM
R608,609	OB09681A	RK 1.5K 1/6W J	S625	OB70043A	Tact Switch SKHHPM
R610,611	OB09681A	RK 1.5K 1/6W J	CN22	OB83402B	2P Connector Ass'y 250mm
R612,613	OB09681A	RK 1.5K 1/6W J	CN23	OB83380A	8P Flat Cable 230mm
R614,615	OB09681A	RK 1.5K 1/6W J	CN24	OB83376A	4P Flat Cable 170mm
R616	OB09662A	RK 240 1/6W J	CN25,26	OB83378A	8P Flat Cable 170mm
R617,618	OB09707A	RK 18K 1/6W J	CN28	OB83405B	2P Connector Ass'y 450mm
R619,620	OB09707A	RK 18K 1/6W J	CN29	OB83377A	5P Flat Cable 170mm
R621,622	OB09707A	RK 18K 1/6W J	CN30	OB83379A	8P Flat Cable 190mm
R623,624	OB09707A	RK 18K 1/6W J		OH05336A	Display Reflector
R625,626	OB09707A	RK 18K 1/6W J		OH05345A	Display Overlay (1)
R627	OB09707A	RK 18K 1/6W J		OJ05634A	Diffuser Sheet A (1)
R628	OB09662A	RK 240 1/6W J		OJ05635B	Diffuser Sheet B (1)
R630	OB09717A	RK 4.7K 1/6W J		OJ05416A	LED Reflector (8)
R631	OB09677A	RK 1K 1/6W J			
R632	OB09701A	RK 10K 1/6W J			
R633	OB09677A	RK 1K 1/6W J			
R634,635	OB09701A	RK 10K 1/6W J			

6.18. Tuner P.C.B. Ass'y

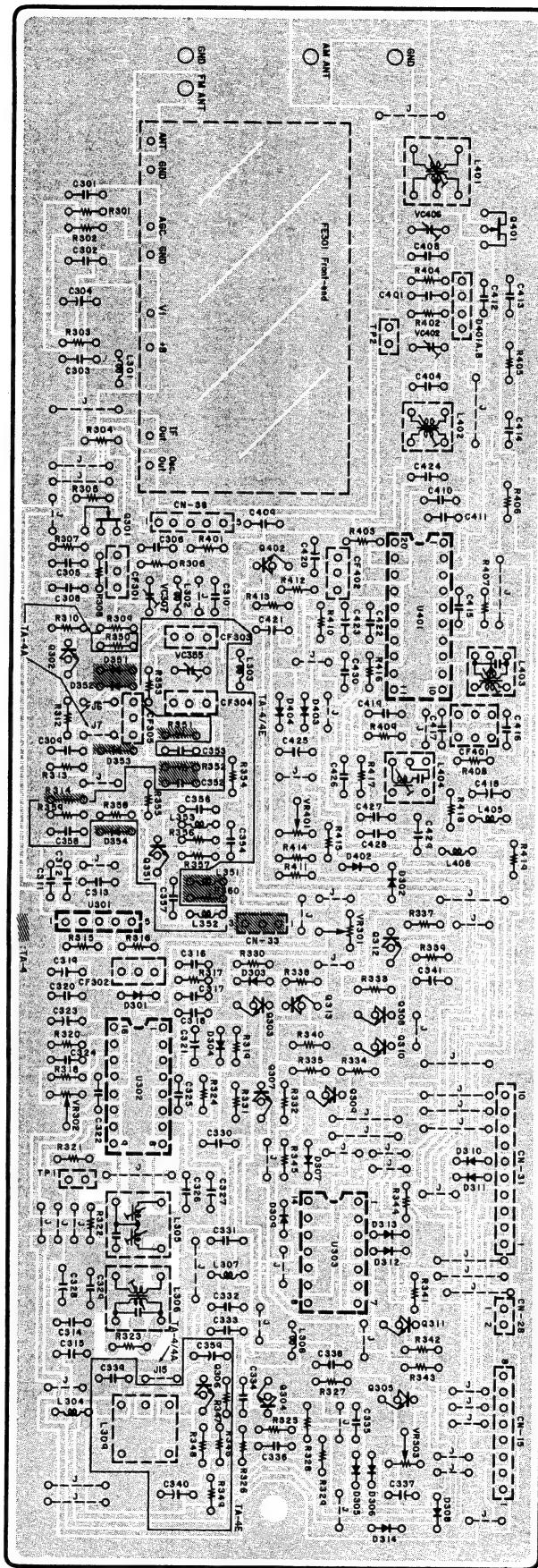


Fig. 6.18

Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description
6.18. Tuner P.C.B. Ass'y								
	BA07357A	Tuner P.C.B. Ass'y (TA-4)	R310	OB09686A	RK 2.4K 1/6W J	C301	OB41787A	CC 0.022μ 25V Z
	BA07295A	Tuner P.C.B. Ass'y (TA-4E)	R312	OB09645A	RK 47 1/6W J	C302	OB41294A	CML 0.047μ 50V J
	BA07358A	Tuner P.C.B. Ass'y (TA-4E)	R313	OB09667A	RK 390 1/6W J	C303	OB41290A	CML 0.022μ 50V J
			R314	OB09689A	RK 3.3K 1/6W J (TA-4)	C304	OB40420A	CE 220μ 16V (LN)
			R315,316	OB09667A	RK 390 1/6W J	C305,306	OB41787A	CC 0.022μ 25V Z
			R317	OB09655A	RK 330 1/6W J	C309,311	OB41787A	CC 0.022μ 25V Z
			R318	OB09677A	RK 1K 1/6W J	C312	OB41787A	CC 0.022μ 25V Z
			R319	OB09701A	RK 10K 1/6W J	C313,314	OB41290A	CML 0.022μ 50V J
			R320	OB09719A	RK 56K 1/6W J	C315	OB40420A	CE 220μ 16V (LN)
U301	OB60605A	Tuner P.C.B.	R321	OB09705A	RK 15K 1/6W J (TA-4/4E)	C316,317	OB41787A	CC 0.022μ 25V Z
U302	OB11156A	IC TA7060AP				C318	OB41787A	CC 0.022μ 25V Z
U303	OB11157A	IC LA1235				C319	OB1402A	CE 4.7μ 25V
U401	OB11243A	IC LA1247				C320	OB41787A	CC 0.022μ 25V Z
Q301	OB10127A	FET 2SK241 (GR)	R322	OB09699A	RK 8.2K 1/6W J	C321	OB09372A	CE 2.2μ 50V
Q302	OB10174A	TR 2SC2669 (O,Y)	R323	OB25228A	RM 2.21K 1/6W J	C322	OB41787A	CC 0.022μ 25V Z
Q303,304	OB06100A	TR 2SC945 (K,P,Q)	R324	OB09677A	RK 1K 1/6W J	C323	OB1405A	CE 1μ 50V
Q305	OB06100A	TR 2SC945 (K,P,Q)	R325	OB09727A	RK 120K 1/6W J	C324	OB41787A	CC 0.022μ 25V Z
Q306	OB10025A	TR 2SC945L (P,K)	R326	OB09705A	RK 15K 1/6W J	C325	OB41909A	CC 100P 50V J
Q307,308	OB06100A	TR 2SC945 (K,P,Q)	R327	OB09669A	RK 470 1/6W J	C326	OB41787A	CC 0.022μ 25V Z
Q309	OB06013A	TR 2SA733 (P,Q)	R328	OB09693A	RK 4.7K 1/6W J	C327	OB1405A	CE 1μ 50V
Q310	OB10068A	TR DTC114ES	R329	OB09677A	RK 1K 1/6W J	C328	OB40066A	CE 330μ 10V
Q311,312	OB06100A	TR 2SC945 (K,P,Q)	R330	OB09717A	RK 47K 1/6W J	C329	OB41787A	CC 0.022μ 25V Z
Q313	OB06100A	TR 2SC945 (K,P,Q)	R331	OB09725A	RK 100K 1/6W J	C330	OB41907A	CC 47P 50V J
Q314	OB10174A	TR 2SC945 (K,P,Q)	R332	OB09701A	RK 10K 1/6W J	C331	OB41912A	CC 100P 50V Z
Q315		(TA-4E)	R333	OB09717A	RK 47K 1/6W J	C332	OB41907A	CC 47P 50V J
Q401	OB06129A	FET 2SK117 (Y)	R334,335	OB09701A	RK 10K 1/6W J	C333	OB41921A	CSP 560P 50V J
Q402	OB06100A	TR 2SC945 (K,P,Q)	R337,338	OB09701A	RK 10K 1/6W J	C334	OB41907A	CC 47P 50V J
D301	OB06398A	SiD 1SS176	R339	OB09707A	RK 18K 1/6W J	C335,336	OB41787A	CC 0.022μ 25V Z
D302,303	OB06398A	SiD 1SS176	R340	OB09725A	RK 100K 1/6W J	C337	OB1405A	CE 1μ 50V
D304,305	OB06398A	SiD 1SS176	R341	OB09701A	RK 10K 1/6W J	C338	OB41787A	CC 0.022μ 25V Z
D306,307	OB06398A	SiD 1SS176	R342,343	OB09717A	RK 47K 1/6W J	C339	OB41219A	CPP 560P 100V
D308,309	OB06398A	SiD 1SS176	R344,345	OB09701A	RK 10K 1/6W J			(TA-4E)
D310,311	OB06398A	SiD 1SS176	R346	OB09694A	RK 5.1K 1/6W J	C340	OB01400A	CE 100μ 16V
D312,313	OB06398A	SiD 1SS176	R347	OB09745A	RK 680K 1/6W J	C341	OB01405A	CE 1μ 50V
D314	OB06398A	SiD 1SS176				C352	OB41787A	CC 0.022μ 25V
D351,352	OB06398A	SiD 1SS176	R348	OB09687A	RK 2.7K 1/6W J			(TA-4)
D353,354	OB06398A	SiD 1SS176	R349	OB09669A	RK 470 1/6W J	C353,354	OB41787A	CC 0.022μ 25V
D401	OB12386A	Varicap	R350	OB09665A	RK 330 1/6W J	C356,357	OB41787A	CC 0.022μ 25V
D402	OB12368A	KV1226Y				C358	OB41787A	CC 0.022μ 25V
D403,404	OB06398A	SiD MA700	R351	OB09665A	RK 330 1/6W J	C359	OB01412A	CE 10μ 16V
CF301,302	OB41918A	Ceramic Filter	R352	OB09693A	RK 4.7K 1/6W J			(TA-4E)
CF303,304	OB41746A	Ceramic Filter SFE10.7MLA	R353	OB09665A	RK 330 1/6W J	C401	OB41787A	CC 0.022μ 25V Z
CF305	OB41918A	Ceramic Filter SFE10.7MS3GH15A	R354	OB09665A	RK 330 1/6W J	C404	OB41920A	CSP 430P 50V J
CF401	OB41701A	Ceramic Filter SFE10.7MLA	R355	OB09689A	RK 3.3K 1/6W J	C408,409	OB41787A	CC 0.022μ 25V Z
CF402	OB92008A	Ceramic Resonator 450KHz	R356	OB09698A	RK 7.5K 1/6W J	C410	OB41912A	CC 1000P 50V Z
L301,302	OB51239A	BUF450C4N	R357	OB09671A	RK 560 1/6W J	C411,412	OB41787A	CC 0.022μ 25V Z
L303,304	OB51239A	Coil 22μH (K)	R358	OB09650A	RK 75 1/6W J	C413	OB41912A	CC 1000P 50V Z
L305	OB51240A	FM DET Coil A				C414,415	OB41787A	CC 0.022μ 25V Z
L306	OB51241A	FM DET Coil B				C416	OB41908A	CC 82P 50V J
L307,308	OB51243A	Choke Coil 6.2mH	R359	OB09677A	RK 1K 1/6W J	C417	OB41787A	CC 0.022μ 25V Z
L309	OB51288A	L.P.F. Filter (TA-4E)	R360	OB09693A	RK 4.7K 1/6W J	C418	OB1403A	CE 47μ 16V
L351	OB51239A	Coil 22μH (K)				C419	OB41912A	CC 1000P 50V Z
L352,353	OB51239A	Coil 22μH (K)	R401	OB09677A	RK 1K 1/6W J	C420,421	OB1402A	CE 4.7μ 25V
L401	OB51282A	ANT Coil	R402	OB09725A	RK 100K 1/6W J	C422	OB41787A	CC 0.022μ 25V Z
L402	OB51279A	OSC Coil	R403	OB09685A	RK 2.2K 1/6W J	C423	OB40111A	CE 0.47μ 50V
L403	OB51280A	AM IFT1 Coil	R405	OB09665A	RK 330 1/6W J	C424	OB41787A	CC 0.022μ 25V Z
L404	OB51281A	AM IFT2 Coil	R406	OB09661A	RK 220 1/6W J	C425	OB409372A	CE 2.2μ 50V
L405,406	OB51239A	Coil 22μH (K)	R407	OB09681A	RK 1.5K 1/6W J	C426	OB41787A	CC 0.022μ 25V Z
VR301	OB32084A	Semi VR 47KB	R409	OB09674A	RK 750 1/6W J	C427	OB41913A	CC 2200P 50V M
VR302	OB32080A	Semi VR 10KB	R410	OB09651A	RK 82 1/6W J	C428	OB41292A	CML 0.033μ 50V J
VR303	OB32084A	Semi VR 47KB	R411	OB09733A	RK 220K 1/6W J	C429	OB01403A	CE 47μ 16V
VR401	OB32086A	Semi VR 100KB	R412,413	OB09701A	RK 10K 1/6W J	C430	OB41914A	CC 0.01μ 50V Z
R301	OB09725A	RK 100K 1/6W J	R414	OB09708A	RK 20K 1/6W J	TP1,2	OB81759A	2P-T Post EH-2P
R302	OB09721A	RK 68K 1/6W J	R415	OB09701A	RK 10K 1/6W J	PJ301	OB81977A	(TA-4/4A)
R303	OB09727A	RK 120K 1/6W J	R416	OB09677A	RK 1K 1/6W J		OB81979A	Antenna Terminal F (TA-4E)
R304	OB09677A	RK 1K 1/6W J	R417	OB09685A	RK 2.2K 1/6W J		OB81979A	Antenna Terminal F (TA-4E)
R305	OB09745A	RK 680K 1/6W J	R418	OB09725A	RK 100K 1/6W J		OB83417A	10P Connector
R306	OB09665A	RK 330 1/6W J	R419	OB09709A	RK 22K 1/6W J	CN15	OB81974A	250mm
R307	OB09645A	RK 47 1/6W J	VC307	OB42012A	C Trimmer 30P	CN31	OB81760A	3P-T Post EH-3P
R308	OB09667A	RK 390 1/6W J	VC355	OB42012A	C Trimmer 30P	FE301	OB91016A	(TA-4)
R309	OB09698A	RK 7.5K 1/6W J	VC402	OB42011A	C Trimmer 20P		OB91031A	5P Connector
			VC406	OB42011A	C Trimmer 20P		OB91031A	260mm
							OB91031A	Front-end
							OB91031A	FE407-A16
							OB91031A	(TA-4/4A)
							OB91031A	Front-end
							OB91031A	FE407-G58
							OJ05624A	(TA-4E)
								Terminal Holder (2)

Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description
6.19. Video & Logic F.C.B. Ass'y								
	BA07360A	Video & Logic P.C.B. Ass'y (TA-4)	D516	OB06398A	SiD 1SS176	R575,576	OB01846A	RK 4.7K 1/4W J
	BA07296A	Video & Logic P.C.B. Ass'y (TA-4A)	D518,519	OB06398A	SiD 1SS176	R577	OB01846A	RK 4.7K 1/4W J
	BA07361A	Video & Logic P.C.B. Ass'y (TA-4A)	D520,521	OB06398A	SiD 1SS176	R578,579	OB09693A	RK 4.7K 1/6W J
			D524,525	OB06398A	SiD 1SS176	R580	OB09693A	RK 4.7K 1/6W J
			D526,527	OB06398A	SiD 1SS176	R581,582	OB05641A	RK 4.7K 1/4W J
			D528,529	OB06398A	SiD 1SS176	R583,584	OB05641A	RK 4.7K 1/4W J
			D530	OB06181A	SiD 1SS53	R585,586	OB05641A	RK 4.7K 1/4W J
			D531	OB06181A	SiD 1SS53	R587,588	OB05641A	RK 4.7K 1/4W J
			D532	OB06398A	SiD 1SS176	R590,591	OB09717A	RK 4.7K 1/6W J
			D534	OB06398A	SiD 1SS176	R592,593	OB09717A	RK 4.7K 1/6W J
			D535	OB06181A	SiD 1SS53	R594,595	OB09717A	RK 4.7K 1/6W J
	OB60606A	Video & Logic P.C.B.	D561	OB12604A	SiD W02M	R596,597	OB09717A	RK 4.7K 1/6W J
U501	OB11250A	IC LB1645N	D953,954	OB06398A	SiD 1SS176	R598	OB09717A	RK 4.7K 1/6W J
U502	OB06143A	IC μPD4001BC	D955	OB06398A	SiD 1SS176	R601,602	OB09733A	RK 220K 1/6W J
U503	OB06219A	IC μPD4081BC	D956	OB12604A	SiD W02M	R603,604	OB09733A	RK 220K 1/6W J
U504	OB11513A	IC μPD74HC237	D957,958	OB06398A	SiD 1SS176	R681,682	OB09717A	RK 4.7K 1/6W J
U505	OB11502A	IC μPD75104CW	D959,960	OB12624A	SiD 1SS177	R683,684	OB09717A	RK 4.7K 1/6W J
U506	OB11161A	IC TC9147BP	D961,962	OB12586A	SiD 1N4002	R685,686	OB09717A	RK 4.7K 1/6W J
U507	OB11159A	IC TD6104P	D963	OB06398A	SiD 1SS176	R693,694	OB09681A	RK 1.5K 1/6W J
U952	OB11248A	IC ICP-N5	D966,967	OB06398A	SiD 1SS176	R696,697	OB09701A	RK 10K 1/6W J
U953	OB11335A	IC ICP-N15	D968,969	OB06398A	SiD 1SS176	R698	OB09709A	RK 22K 1/6W J
U1001,1002	OB06169A	IC TC4066BP	D1001	OB12604A	SiD W02M	R951	OB09665A	RK 330 1/6W J
Q501,502	OB10113A	TR 2SC1815 (GR)	D1003,1004	OB06398A	SiD 1SS176	R952	OB09669A	RK 470 1/6W J
Q503	OB10113A	TR 2SC1815 (GR)	D1005,1006	OB06398A	SiD 1SS176	R953,954	OB09686A	RK 2.4K 1/6W J
Q504	OB10116A	TR 2SA1015 (GR)	D1007,1008	OB06398A	SiD 1SS176	R955	OB09685A	RK 2.2K 1/6W J
Q505,506	OB10113A	TR 2SC1815 (GR)	D1009,1010	OB06398A	SiD 1SS176	R956	OB09695A	RK 5.6K 1/6W J
Q507,508	OB10116A	TR 2SA1015 (GR)	X501	OB92014A	Ceramic Resonator 4MHz	R957	OB09733A	RK 220K 1/6W J
Q509,510	OB10116A	TR 2SA1015 (GR)	X502	OB92006A	X' Tal 7.2MHz	R958	OB09725A	RK 100K 1/6W J
Q511	OB10068A	TR DTC114ES (Low Noise)	L501	OB51239A	Coil 22μH	R959	OB09709A	RK 22K 1/6W J
Q512,513	OB10113A	TR 2SC1815 (GR)	L502	OB51286A	Coil 470μH	R960	OB09707A	RK 18K 1/6W J
Q514,515	OB10088A	TR 2SC1815L (GR)	R500	OB09677A	RK 1K 1/6W J	R961	OB09693A	RK 4.7K 1/6W J
Q516,517	OB10113A	TR 2SC1815 (GR)	R502	OB09707A	RK 100K 1/6W J	R962	OB09727A	RK 120K 1/6W J
Q518,519	OB10113A	TR 2SC1815 (GR)	R503	OB09695A	RK 5.6K 1/6W J	R963	OB09719A	RK 56K 1/6W J
Q520,521	OB10113A	TR 2SC1815 (GR)	R504	OB09697A	RK 6.8K 1/6W J	R964	OB09721A	RK 68K 1/6W J
Q522,523	OB10113A	TR 2SC1815 (GR)	R505,506	OB09725A	RK 100K 1/6W J	R965,966	OB09725A	RK 100K 1/6W J
Q524,525	OB10116A	TR 2SA1015 (GR)	R507	OB1888A	RK 10K 1/4W J	R967	OB09717A	RK 4.7K 1/6W J
Q526,527	OB10116A	TR 2SA1015 (GR)	R508	OB09669A	RK 470 1/6W J	R968	OB09701A	RK 10K 1/6W J
Q528,529	OB10116A	TR 2SA1015 (GR)	R509	OB09701A	RK 10K 1/6W J	R969	OB09694A	RK 5.1K 1/6W J
Q530,531	OB10116A	TR 2SA1015 (GR)	R510,511	OB09695A	RK 5.6K 1/6W J	R970,971	OB09701A	RK 10K 1/6W J
Q532	OB10116A	TR 2SA1015 (GR)	R512	OB09689A	RK 3.8K 1/6W J	R972	OB09694A	RK 5.1K 1/6W J
Q533,534	OB10113A	TR 2SC1815 (GR)	R513	OB09683A	RK 1.8K 1/6W J	R973	OB09701A	RK 10K 1/6W J
Q535,536	OB10113A	TR 2SC1815 (GR)	R514	OB09689A	RK 3.3K 1/6W J	R974	OB09661A	RK 220 1/6W J
Q537,538	OB10113A	TR 2SC1815 (GR)	R515,516	OB09661A	RK 220 1/6W J	R975	OB09649A	RK 68 1/6W J
Q539,540	OB10113A	TR 2SC1815 (GR)	R517	OB09701A	RK 10K 1/6W J	R976	OB09661A	RK 220 1/6W J
Q541,542	OB10113A	TR 2SC1815 (GR)	R518	OB09725A	RK 100K 1/6W J	R977	OB20514A	RK 100 1/2W J
Q543,544	OB10113A	TR 2SC1815 (GR)	R519	OB09661A	RK 220 1/6W J	R978	OB09669A	RK 470 1/6W J
Q545,546	OB10113A	TR 2SC1815 (GR)	R520,521	OB09701A	RK 10K 1/6W J	R979	OB09683A	RK 1.8K 1/6W J
Q547,548	OB10113A	TR 2SC1815 (GR)	R522,523	OB09725A	RK 100K 1/6W J	R980	OB09669A	RK 470 1/6W J
Q552,553	OB10113A	TR 2SC1815 (GR)	R524,525	OB09725A	RK 100K 1/6W J	R981	OB09677A	RK 1K 1/6W J
Q554,555	OB10113A	TR 2SC1815 (GR)	R526,527	OB09725A	RK 100K 1/6W J	R982	OB09665A	RK 330 1/6W J
Q556	OB10113A	TR 2SC1815 (GR)	R528	OB09725A	RK 100K 1/6W J	R983	OB09679A	RK 1.2K 1/6W J
Q557	OB10062A	TR DTC144ES	R529	OB09717A	RK 47K 1/6W J	R984	OB09691A	RK 3.9K 1/6W J
Q551	OB10113A	TR 2SC1815 (GR)	R530	OB09663A	RK 270 1/6W J	R985	OB09651A	RK 82 1/6W J
Q553	OB06142A	TR 2SC2240 (BL)	R531	OB09693A	RK 4.7K 1/6W J	R986	OB09701A	RK 10K 1/6W J
Q554,955	OB10113A	TR 2SC1815 (GR)	R532	OB09717A	RK 47K 1/6W J	R987	OB09649A	RK 68 1/6W J
Q556	OB10116A	TR 2SA1015 (GR)	R533,534	OB09677A	RK 1K 1/6W J	R988	OB20514A	RK 100 1/2W J
Q557	OB10113A	TR 2SC1815 (GR)	R535,536	OB09677A	RK 1K 1/6W J	R989	OB09661A	RK 220 1/6W J
Q558	OB06013A	TR SA733 (P,Q)	R537,538	OB09677A	RK 1K 1/6W J	R990	OB09669A	RK 470 1/6W J
Q559	OB10113A	TR 2SC1815 (GR)	R539,540	OB09677A	RK 1K 1/6W J	R991	OB09683A	RK 1.8K 1/6W J
Q560	OB06013A	TR SA733 (P,Q)	R541,542	OB09677A	RK 1K 1/6W J	R992	OB09669A	RK 470 1/6W J
Q561	OB10113A	TR 2SC1815 (GR)	R543,544	OB09677A	RK 1K 1/6W J	R993	OB09677A	RK 1K 1/6W J
Q562	OB06452A	TR 2SD1406 (Y)	R545,546	OB09693A	RK 4.7K 1/6W J	R994	OB09665A	RK 330 1/6W J
Q563	OB06100A	TR 2SC945 (K,P,Q)	R547	OB09725A	RK 100K 1/6W J	R995	OB09691A	RK 3.9K 1/6W J
Q564	OB06013A	TR SA733 (P,Q)	R548	OB09701A	RK 10K 1/6W J	R996	OB09679A	RK 1.2K 1/6W J
Q565	OB06100A	TR 2SC945 (K,P,Q)	R549	OB09739A	RK 390K 1/6W J	R997	OB09651A	RK 82 1/6W J
Q566	OB06013A	TR SA733 (P,Q)	R550	OB09709A	RK 22K 1/6W J	R998	OB09650A	RK 75 1/6W J
Q567	OB06100A	TR 2SC945 (K,P,Q)	R551,552	OB09685A	RK 2.2K 1/6W J	R999	OB09650A	RK 75 1/6W J
Q568	OB06100A	TR 2SA1015 (GR)	R553,554	OB09701A	RK 10K 1/6W J	R1000	OB05776A	RK 1M 1/4W J
ZD504	OB12622A	ZD 5.6V	R555	OB20093A	RK 1.5M 1/6W J	R1001	OB05776A	RK 1M 1/4W J
ZD952	OB12619A	RD 5.6JB-T1B3	R556	OB09731A	RK 180K 1/6W J	R1002	OB05776A	RK 1M 1/4W J
ZD964,965	OB12621A	ZD 6.8V	R557	OB09733A	RK 220K 1/6W J	R1003	OB01857A	RK 1K 1/4W J
ZD1002	OB12177A	RD 6.8ES-T1B2	R558	OB09693A	RK 4.7K 1/6W J	R1004	OB01836A	CE 47μ 10V
ZD1002	OB12177A	ZD 15V	R559	OB09725A	RK 100K 1/6W J	R1005	OB09372A	CE 2.2μ 50V
ZD1002	OB12177A	ZD 13V	R560,561	OB09721A	RK 68K 1/6W J	R1006	OB41917A	CC 0.1μ 25V Z
D501,502	OB06398A	SiD 1SS176	R562,563	OB09725A	RK 100K 1/6W J	R1007	OB41914A	CC 0.01μ 50V Z
D503	OB06398A	SiD 1SS176	R565	OB09725A	RK 100K 1/6W J	R1008	OB01405A	CE 1μ 50V
D505,506	OB06398A	SiD 1SS176	R566,567	OB09701A	RK 10K 1/6W J	R1009	OB05885A	CE 0.022μ 25V Z
D507	OB12363A	SiD MA700	R568	OB09677A	RK 1K 1/6W J	R1009	OB01405A	CE 1μ 50V
D508	OB06398A	SiD 1SS176	R569	OB09699A	RK 8.2K 1/6W J	R1009	OB05681A	CML 0.01μ 50V J
D509	OB12363A	SiD MA700	R570	OB09701A	RK 10K 1/6W J	R1009	OB41903A	CC 33P 50V J
D510,511	OB06398A	SiD 1SS176	R571	OB09677A	RK 1K 1/6W J	R1009	OB01405A	CE 1μ 50V
D512,513	OB06398A	SiD 1SS176	R572	OB00346A	RK 1K 1/2W J	R1009	OB41787A	CC 0.022μ 25V Z
D514,515	OB06398A	SiD 1SS176	R573,574	OB01846A	RK 4.7K 1/4W J	R1009	OB01405A	CE 1μ 50V
		SiD 1SS176				R1010	OB05899A	CE 220μ 10V

6.19. Video & Logic P.C.B. Ass'y

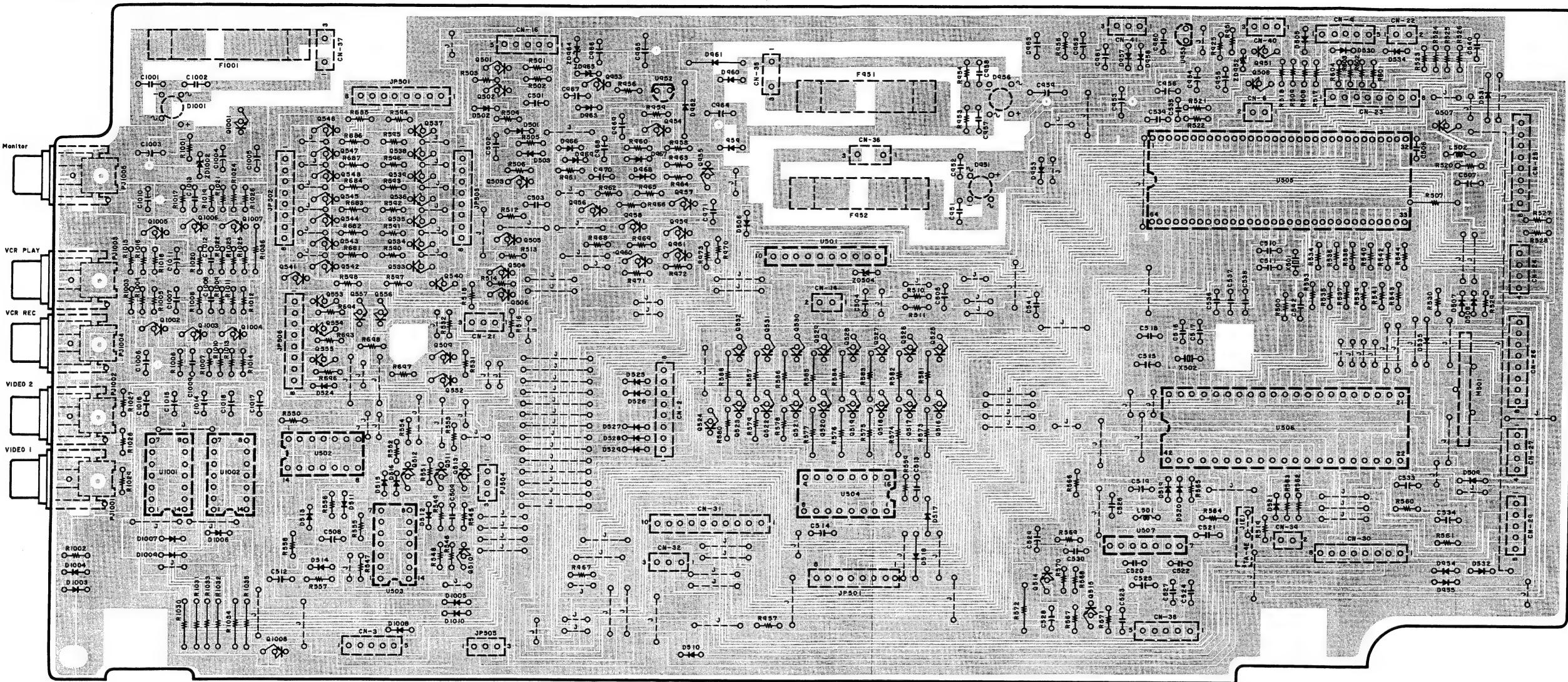


Fig. 6.19

Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description
C516	OB41902A	CC 22P 50V J	C959	OB40095A	CE 1000 μ 25V	C1016,1017	OB01862A	CE 22 μ 16V	CN2	OB81765A	8P-T Post EH-8P	CN32	OB81968A	3P-T Post EH-3P
C517	OB41904A	CC 47P 50V J	C960	OB41917A	CC 0.1 μ 25V Z	C1018	OB01862A	CE 22 μ 16V	CN3	OB81762A	5P-T Post EH-5P	CN35	OB81760A	3P-T Post EH-3P
C518	OB41787A	CC 0.022 μ 25V Z	C961	OB01412A	CE 10 μ 16V	F951	OB90336A	Fuse 1A 250V (TA-4/4A)	CN6	OB81759A	2P-T Post EH-2P	CN36	OB81968A	3P-T Post EH-3P
C519	OB01405A	CE 1 μ 50V	C962	OB41917A	CC 0.1 μ 25V Z		OB90286A	Fuse T1A 250V (TA-4E)	CN9	OB81973A	5P-T Post EH-5P	CN37	OB81970A	3P-T Post EH-3P
C520	OB41906A	CC 39P 50V J	C963	OB01400A	CE 100 μ 16V	F952	OB90337A	Fuse 2A 250V (TA-4/4A)	CN14	OB81967A	2P-T Post EH-2P	CN38	OB81762A	5P-T Post EH-5P
C521	OB41914A	CC 0.01 μ 50V Z	C964	OB40094A	CE 470 μ 25V		OB90355A	Fuse T2A 250V (TA-4E)	CN16	OB81972A	5P-T Post EH-5P	CN39	OB81759A	2P-T Post EH-2P
C522	OB41913A	CC 2200P 50V K	C965	OB40123A	CE 470 μ 50V		OB90335A	Fuse 0.5A 250V (TA-4/4A)	CN21	OB81969A	3P-T Post EH-3P	CN40,41	OB81954A	3P Connector
C523	OB41787A	CC 0.022 μ 25V Z	C966	OB40100A	CE 10 μ 35V		OB90288A	Fuse T500mA 250V (TA-4E)	CN22	OB81966A	2P-T Post EH-2P		OB81848A	Fuse Holder (TA-4E) (6)
C524	OB41909A	CC 100P 50V J	C967	OB01405A	CE 1 μ 50V	F1001	OB90335A	Fuse 0.1 μ 50V Z (TA-4E)	CN23	OB81959A	8P Connector		OB81930A	Fuse Holder SN-5051 (TA-4/4A) (6)
C525	OB01403A	CE 47 μ 16V	C968	OB01400A	CE 100 μ 16V		OB90335A	Fuse 0.1 μ 50V (TA-4E)	CN24	OB81955A	4P Connector		OJ05704A	Shield Plate B (1)
C526,527	OB41787A	CC 0.022 μ 25V Z	C969	OB01405A	CE 1 μ 50V		OB90335A	Fuse 0.1 μ 50V (TA-4E)	CN25,26	OB81959A	8P Connector		OJ05705B	Shield Plate (1)
C528	OB40103A	CE 47 μ 35V	C970	OB01863A	CE 3.3 μ 50V		OB90335A	Fuse 0.1 μ 50V (TA-4E)	CN27	OB81761A	4P-T Post EH-4P		OM04191A	Fuse Label T1A 250V (TA-4E) (1)
C529	OB09567A	CE 0.33 μ 50V (LN)	C971	OB41304A	CML 0.33 μ 50V J		OB90335A	Fuse 0.1 μ 50V (TA-4E)	CN29	OB81956A	5P Connector		OM05295A	Fuse Label T2A 250V (TA-4E) (1)
C530	OB01780A	CML 0.1 μ 50V J	C1001,1002	OB41915A	CC 0.1 μ 50V Z		OB90335A	Fuse 0.1 μ 50V (TA-4E)	CN30	OB81959A	8P Connector			
C533	OB01405A	CE 1 μ 50V	C1003	OB40423A	CE 470 μ 16V	PJ501	OB83399B	Flat Wire 8P 260	CN31	OB81767A	10P-T Post EH-10P			
C534	OB40025A	CE 0.47 μ 50V	C1004	OB40079A	CE 220 μ 16V	PJ502	OB83397B	Flat Wire 8P 220						
C535,536	OB41787A	CC 0.022 μ 25V Z	C1005	OB01400A	CE 100 μ 16V	PJ503	OB83400B	Flat Wire 8P 320						
C537,538	OB41787A	CC 0.022 μ 25V Z	C1006	OB40082A	CE 1000 μ 16V	PJ504	OB83394B	Flat Wire 3P 320						
C539,540	OB41787A	CC 0.022 μ 25V Z	C1007	OB01400A	CE 100 μ 16V	PJ505	OB83395B	Flat Wire 3P 400						
C541,542	OB41787A	CC 0.022 μ 25V Z	C1008	OB41905A	CC 5P 50V C	PJ506	OB83398B	Flat Wire 8P 250						
C951,952	OB41915A	CC 0.1 μ 50V Z	C1009	OB41910A	CC 390P 50V J	PJ1001,	OB81947A	1P Pin Jack						
C953	OB40082A	CE 1000 μ 16V	C1010	OB40082A	CE 1000 μ 16V	1002								
C954	OB01400A	CE 100 μ 16V	C1011	OB01400A	CE 100 μ 16V	PJ1003,	OB81947A	1P Pin Jack						
C955	OB01405A	CE 1 μ 50V	C1012	OB41905A	CC 5P 50V C	1004								
C956	OB05885A	CE 100 μ 10V	C1013	OB41910A	CC 390P 50V J	PJ1005	OB81947A	1P Pin Jack						
C957,958	OB41915A	CC 0.1 μ 50V Z	C1014,1015	OB01862A	CE 22 μ 16V									

6.20. Main P.C.B. Ass'y

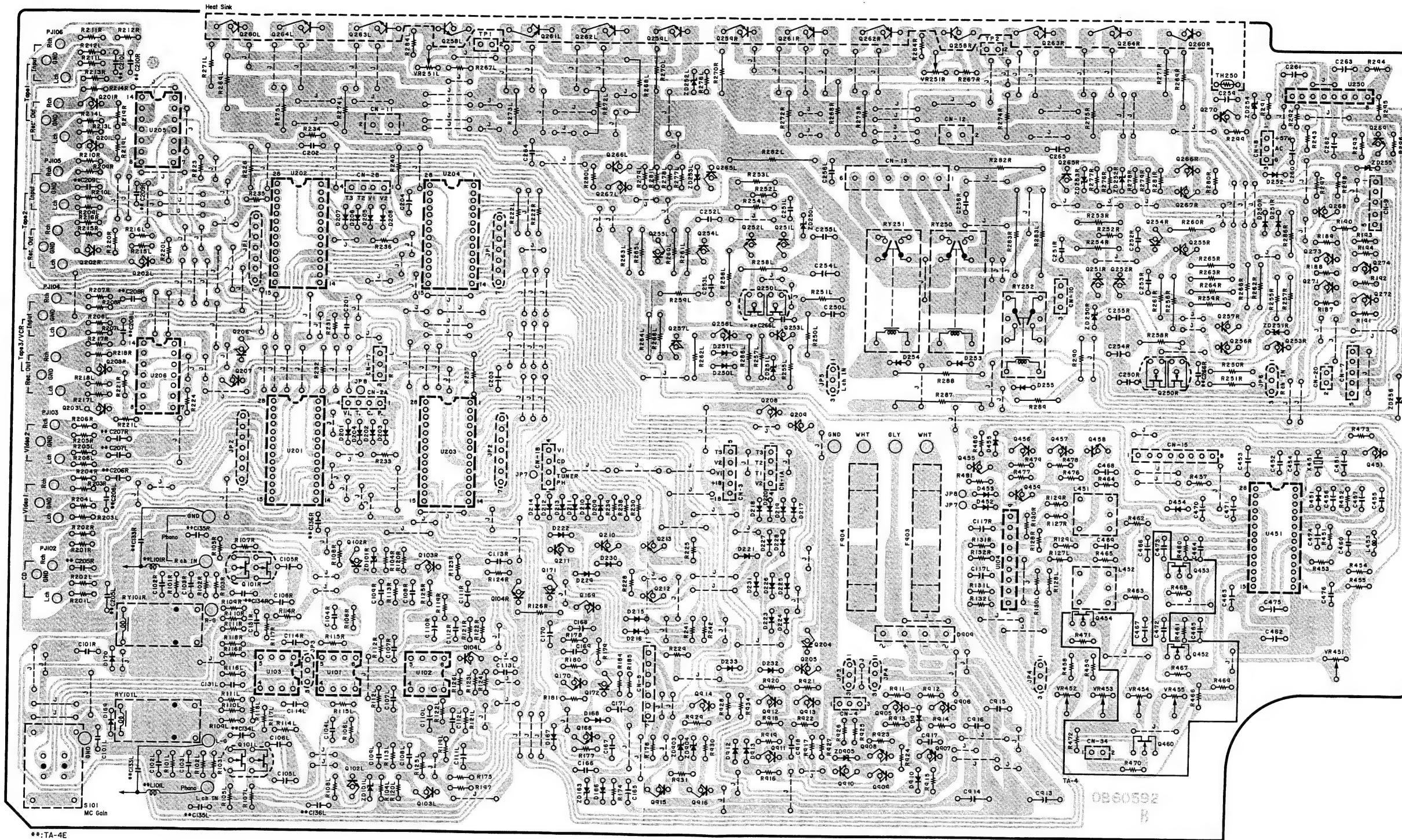


Fig. 6.20

Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description	Schematic Ref. No.	Part No.	Description	
6.20. Main P.C.B. Ass'y																		
	BA07540A	Main P.C.B. Ass'y (TA-4)	ZD254,255	OB12619A	ZD 6.8V RD6.8ES-T1B2	R179	OB09661A	RK 220 1/6W J	R291	OB09701A	RK 10K 1/6W J	C207L,R	OB41082A	CML 1000P (TA-4E)	CN20	OB81966A	2P-T Post EH-2P RED	
	BA07282A	Main P.C.B. Ass'y (TA-4)	ZD256	OB12618A	ZD 4.7V RD4.7ES-T1B2	R180	OB09697A	RK 6.8K 1/6W J	R292	OB09733A	RK 220K 1/6W J	C208L,R	OB41082A	CML 1000P (TA-4E)	CN34	OB81759A	2P-T Post EH-2P (TA-4)	
	BA07541A	Main P.C.B. Ass'y (TA-4E)	ZD903,904	OB12620A	ZD 12V RD12ES-T1B2	R181	OB09713A	RK 3.8K 1/6W J	R293	OB09724A	RK 91K 1/6W J	C209L,R	OB41082A	CML 1000P (TA-4E)		OB83396A	Flat Cable 7P 110 (2)	
			ZD905	OB12168A	ZD 10V RD10JS-T1B2	R182	OB09717A	RK 47K 1/6W J	R294	OB09707A	RK 18K 1/6W J	C210L,R	OB41082A	CML 1000P (TA-4E)		OB83391A	Flat Cable 3P 170 (1)	
					D166,167 OB06398A	SID 1SS176	R193,194	OB09717A	RK 47K 1/6W J	R295	OB09717A	RK 10K 1/6W J	C210L,R	OB41082A	CML 1000P (TA-4E)		OB83390A	Flat Cable 3P 80 (1)
U101	OB60592B	Main P.C.B.	D168,169	OB06398A	SID 1SS176	R197	OB09749A	RK 1M 1/6W J	R299	OB09693A	RK 4.7K 1/6W J	C250L,R	OB41704A	CSP 330P 50V J				
U102	OB11204A	IC NJM5532DD	D170	OB06398A	SID 1SS176	R201L,R	OB09719A	RK 56K 1/6W J	R451	OB09701A	RK 10K 1/6W J	C251L,R	OB09852A	CML 4700P 50V J				
U103	OB11005A	IC NJM072DE	D201,202	OB06398A	SID 1SS176	R202L,R	OB09653A	RK 100 1/6W J	R452	OB09689A	RK 3.3K 1/6W J	C252L,R	OB41923A	CSP 22P 125V K				
U104	OB11050A	IC NJM4558S	D205,206	OB06398A	SID 1SS176	R203L,R	OB09719A	RK 56K 1/6W J	R453	OB09721A	RK 68K 1/6W J	C253L,R	OB41923A	CSP 22P 125V K				
U201,202	OB11514A	IC LC7816	D207,208	OB06398A	SID 1SS176	R204L,R	OB09653A	RK 100 1/6W J	R454	OB09701A	RK 10K 1/6W J	C254L,R	OB40154A	CE 47u 16V (LN)				
U203,204	OB11514A	IC LC7816	D209,210	OB06398A	SID 1SS176	R205L,R	OB09719A	RK 56K 1/6W J	R455	OB09677A	RK 1K 1/6W J	C255L,R	OB41823A	CML 0.01u 50V J				
U205,206	OB11056A	IC LC4966	D211,212	OB06398A	SID 1SS176	R206L,R	OB09653A	RK 100 1/6W J	R456	OB09721A	RK 68K 1/6W J	C256L,R	OB41537A	CML 0.1u 100V J				
U451	OB11515A	IC LA3450	D215,216	OB06398A	SID 1SS176	R207L,R	OB09719A	RK 100 1/6W J	R457	OB09741A	RK 470K 1/6W J	C257L,R	OB90372A	CE 2.2u 50V				
Q101L,R	OB10187A	FET 2SK146 (GR,BL)	D217,218	OB06398A	SID 1SS176	R208L,R	OB09653A	RK 100 1/6W J	R458,459	OB09689A	RK 100K 1/6W J	C260	OB40127A	CE 10u 63V				
Q102L,R	OB06142A	TR 2SC2240 (BL)	D219,220	OB06398A	SID 1SS176	R209L,R	OB09719A	RK 56K 1/6W J	R460,461	OB09689A	RK 100K 1/6W J	C261	OB40154A	CE 2.2u 50V				
Q103L,R	OB06299A	TR 2SC2878	D221,222	OB06398A	SID 1SS176	R210L,R	OB09653A	RK 100 1/6W J	R462,463	OB09689A	RK 3.3K 1/6W J	C262	OB05899A	CE 220u 10V				
Q104L,R	OB06299A	TR 2SC2878	D223,224	OB06398A	SID 1SS176	R211L,R	OB09719A	RK 56K 1/6W J	R464,465	OB09677A	RK 1K 1/6W J	C263	OB041400A	CE 100u 16V				
Q168	OB06100A	TR 2SC945 (K,P,Q)	D225,226	OB06398A	SID 1SS176	R212L,R	OB09653A	RK 100 1/6W J	R466	OB09725A	RK 220 1/6W J	C264,265	OB41926A	CML 0.1u 250V J				
Q169	OB06013A	TR 2SA733 (P,Q)	D227,228	OB06398A	SID 1SS176	R213L,R	OB09725A	RK 100K 1/6W J	R467,468	OB09749A	RK 1M 1/6W J	C266L,R	OB41005A	CC 180P 50V J				
Q170	OB06100A	TR 2SC945 (K,P,Q)	D229,230	OB06398A	SID 1SS176	R214L,R	OB09661A	RK 220 1/6W J	R469	OB09725A	RK 100K 1/6W J	C451	OB01400A	CE 100u 16V				
Q171	OB10053B	TR DTA144ES	D231,232	OB06398A	SID 1SS176	R215L,R	OB09725A	RK 100K 1/6W J	R470,471	OB09749A	RK 1M 1/6W J	C452	OB09860A	CML 0.022u 50V J				
Q172	OB06013A	TR 2SA733 (P,Q)	D233	OB06398A	SID 1SS176	R216L,R	OB09661A	RK 220 1/6W J	R471	OB09725A	RK 100K 1/6W J	C453	OB401418A	CE 330u 16V (LN)				
Q201L,R	OB06299A	TR 2SC2878	D250L,R	OB06398A	SID 1SS176	R217L,R	OB09725A	RK 100K 1/6W J	R472	OB09725A	RK 100K 1/6W J	C454	OB41911A	CC 470P 50V J				
Q202L,R	OB06299A	TR 2SC2878	D251L,R	OB06398A	SID 1SS176	R218L,R	OB09661A	RK 220 1/6W J	R473	OB09717A	RK 47K 1/6W J	C455	OB41294A	CML 0.047u 50V J				
Q203L,R	OB06299A	TR 2SC2878	D252,253	OB06398A	SID 1SS176	R219L,R	OB09717A	RK 47K 1/6W J	R474	OB09717A	RK 47K 1/6W J	C456	OB40111A	CE 0.47u 50V				
Q204	OB10053A	TR DTA144ES	D254,255	OB06398A	SID 1SS176	R220L,R	OB09717A	RK 47K 1/6W J	R475	OB09725A	RK 100K 1/6W J	C457	OB01405A	CE 1u 50V				
Q205	OB10062A	TR DTC144ES	D451,452	OB06398A	SID 1SS176	R221L,R	OB09717A	RK 47K 1/6W J	R476,477	OB09695A	RK 5.6K 1/6W J	C458	OB05652A	CML 4700P 50V J				
Q206	OB10053A	TR DTA144ES	D453,454	OB06398A	SID 1SS176	R222L,R	OB05623A	RK 1.2K 1/4W J	R478,479	OB09701A	RK 10K 1/6W J	C459	OB40111A	CE 0.47u 50V				
Q207	OB10062A	TR DTC144ES	D455	OB06398A	SID 1SS176	R223,230	OB09717A	RK 47K 1/6W J	R480	OB09703A	RK 12K 1/6W J	C460	OB41228A	CPP 510P 100V J				
Q208	OB10053A	TR DTA144ES	D456	OB06398A	SID 1SS176	R224L,R	OB01889A	RK 100K 1/4W J	R481	OB09717A	RK 47K 1/6W J	C461	OB41222A	CPP 750P 100V J				
Q209	OB10062A	TR DTC144ES	D457	OB06398A	SID 1SS176	R225L,R	OB09733A	RK 220K 1/6W J	R482	OB09685A	RK 2.2K 1/6W J	C462,463	OB09816A	CE 10u 16V (LN)				
Q210,211	OB10062A	TR DTC144ES	D458	OB06398A	SID 1SS176	R226L,R	OB09733A	RK 220K 1/6W J	R483	OB09685A	RK 2.2K 1/6W J	C464,465	OB41921A	CE 10u 16V (LN)				
Q212	OB06100A	TR 2SC945 (K,P,Q)	X451	OB41927A	Ceramic Resonator CSB456F11	R227L,R	OB09733A	RK 220K 1/6W J	R484	OB09717A	RK 47K 1/6W J	C465	OB41395A	CPP 240P 50V J				
Q213	OB10053A	TR DTA144ES	D459	OB10261A	FET 2SK389	R228L,R	OB09725A	RK 100K 1/6W J	R485	OB09717A	RK 47K 1/6W J	C466,467	OB09816A	CE 10u 16V (LN)				
Q250L,R	OB10261A	FET 2SK389	L101L,R	OB51266A	Coil 48uH	R229L,R	OB09725A	RK 100K 1/6W J	R486	OB09685A	RK 2.2K 1/6W J	C467,468	OB4					

7. SCHEMATIC DIAGRAMS

7.1. IC Block Diagrams

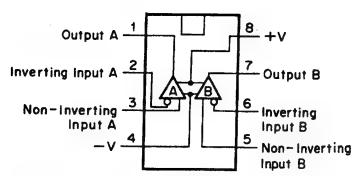


Fig. 7.1.1 Operational Amp. IC NJM4558D, NJM072DE, NJM5532DD

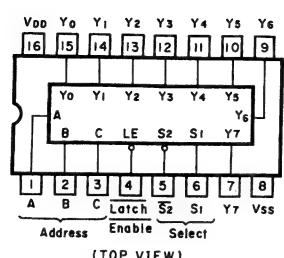


Fig. 7.1.2 Operational Amp. IC NJM4558S, NJM5532SD

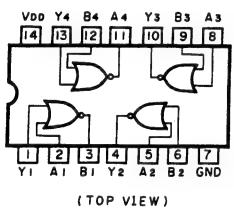


Fig. 7.1.3 NOR Gate C-MOS IC μPD4001BC

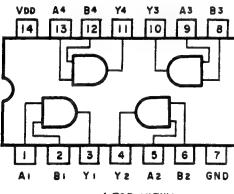


Fig. 7.1.4 AND Gate C-MOS IC μPD4081BC

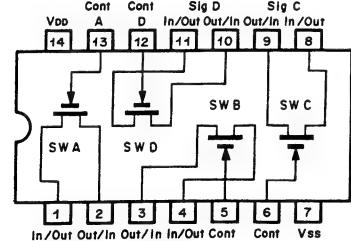


Fig. 7.1.5 Bilateral Switch IC TC4066BP, LC4966

Fig. 7.1.6 3-to-8 Line Decoder IC μPD74HC237

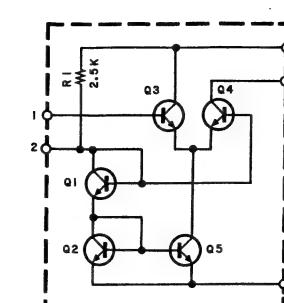


Fig. 7.1.7 FM IF Amp. IC TA7060AP

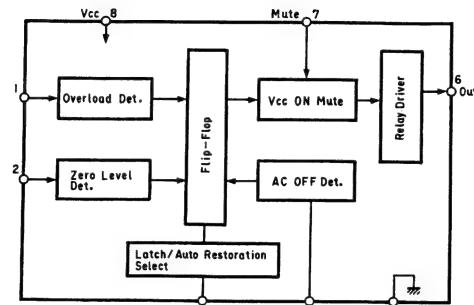


Fig. 7.1.8 Power Amp. Protector IC μPC1237H

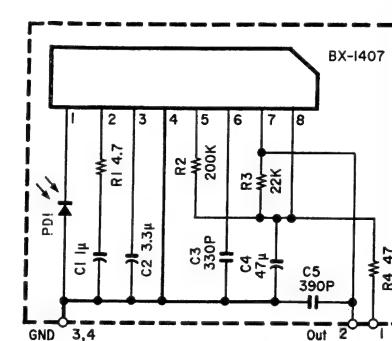


Fig. 7.1.9 Remote Control Receiver IC BX-1407

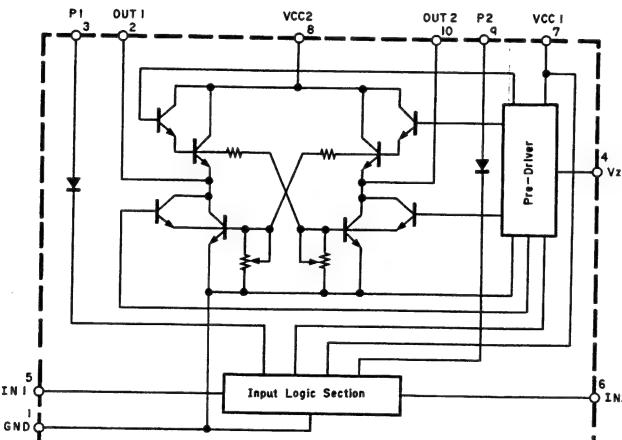


Fig. 7.1.10 Motor Control IC LB1645N

INPUT	IN1	IN2	OUTPUT	OUT1	OUT2	OPERATION
0	0	0	0	0	0	Braking
1	0	1	0	1	0	Forward (Reverse)
0	1	0	1	0	1	Reverse (Forward)
1	1	0	0	0	0	Braking

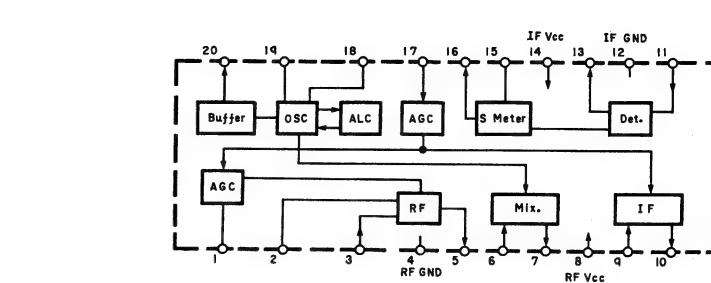


Fig. 7.1.11 AM Tuner IC LA1247

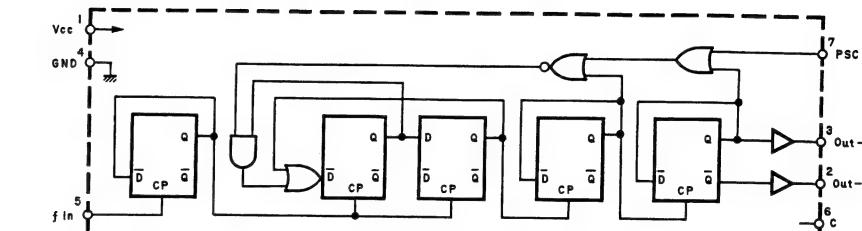


Fig. 7.1.12 ECL Prescaler (FM) IC TD6104P

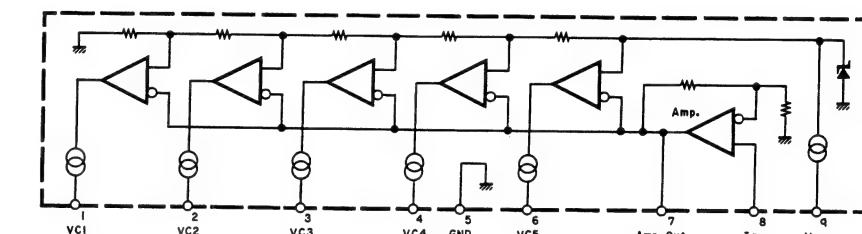


Fig. 7.1.13 Signal Meter Driver IC LB1413N

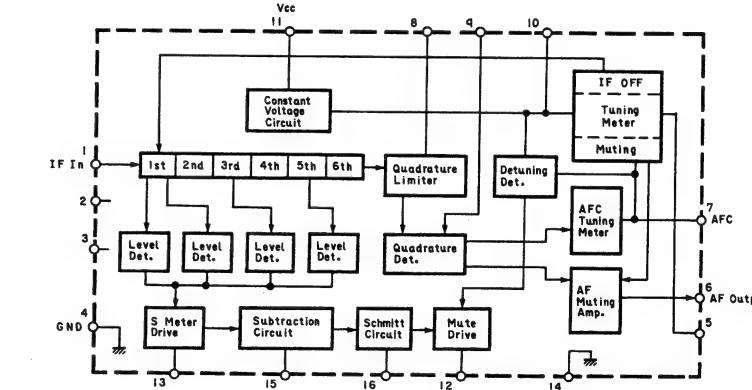


Fig. 7.1.14 FM IF Amp. & Detector IC LA1235

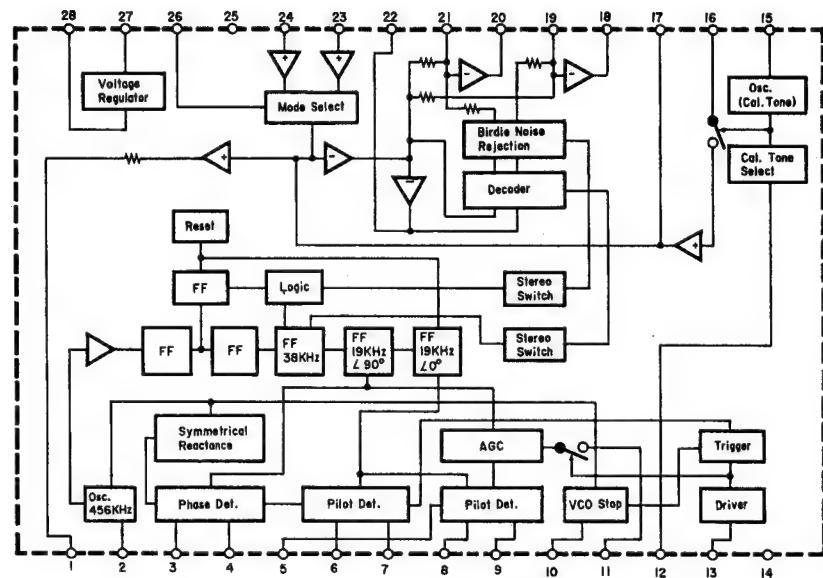


Fig. 7.1.15 PLL FM MPX Demodulator IC LA3450

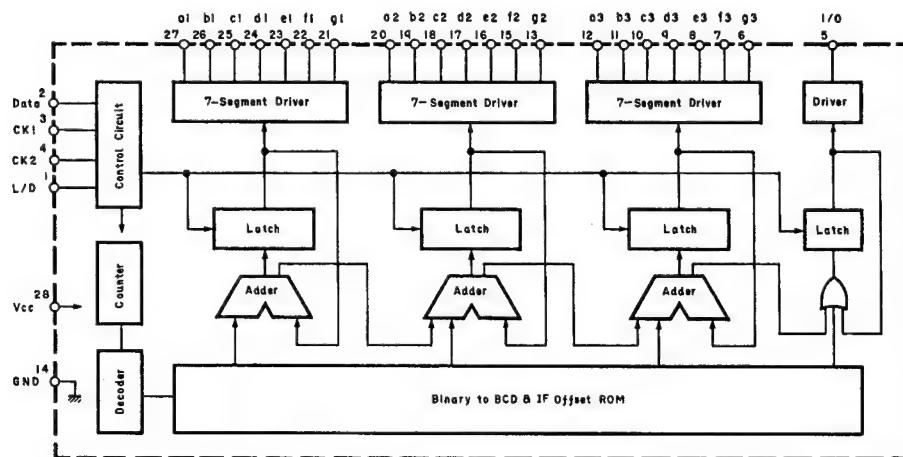


Fig. 7.1.16 Display Driver IC TD6301AN

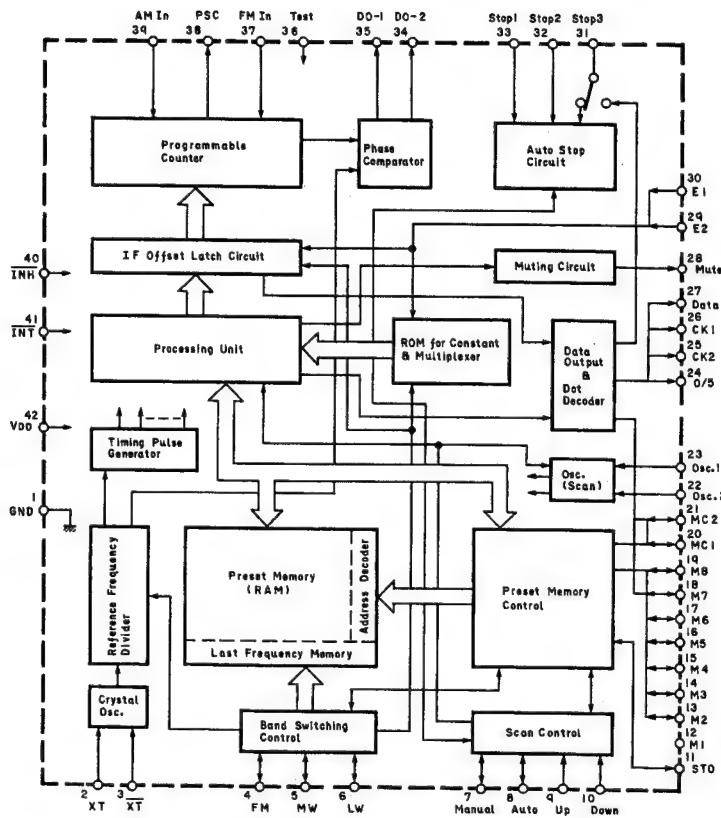


Fig. 7.1.17 PLL Synthesizer IC TC9147BP

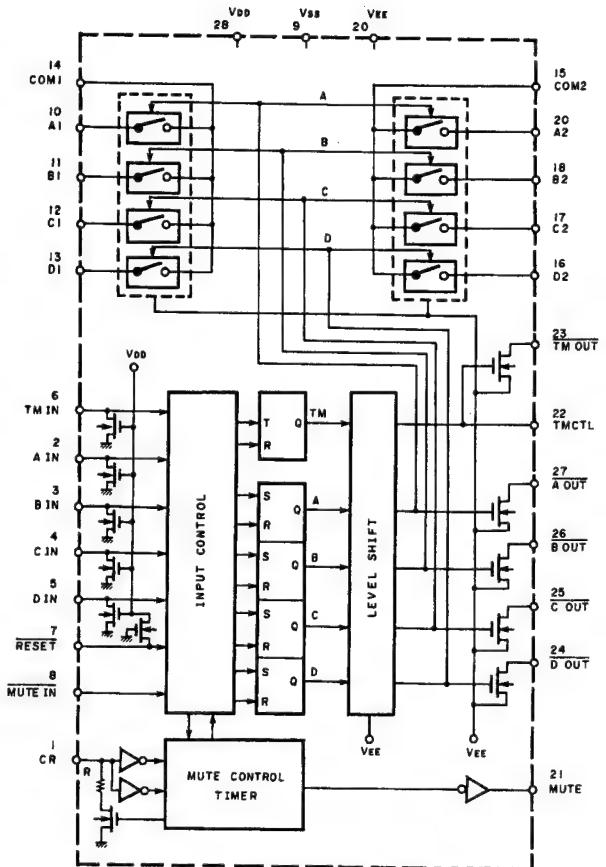


Fig. 7.1.18 Analog Function Switch LC7816

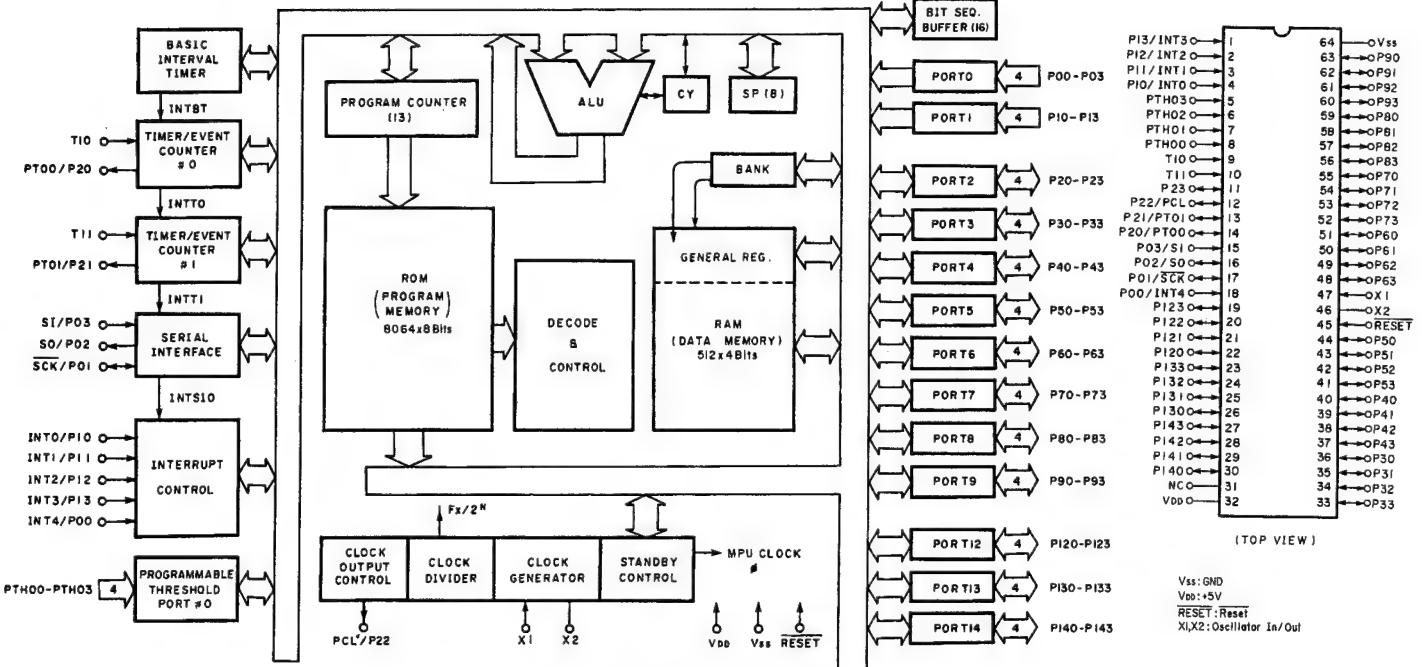


Fig. 7.1.19 MPU μPD75104CW

7.2. Schematic Diagrams

7.2.1. Tuner Section

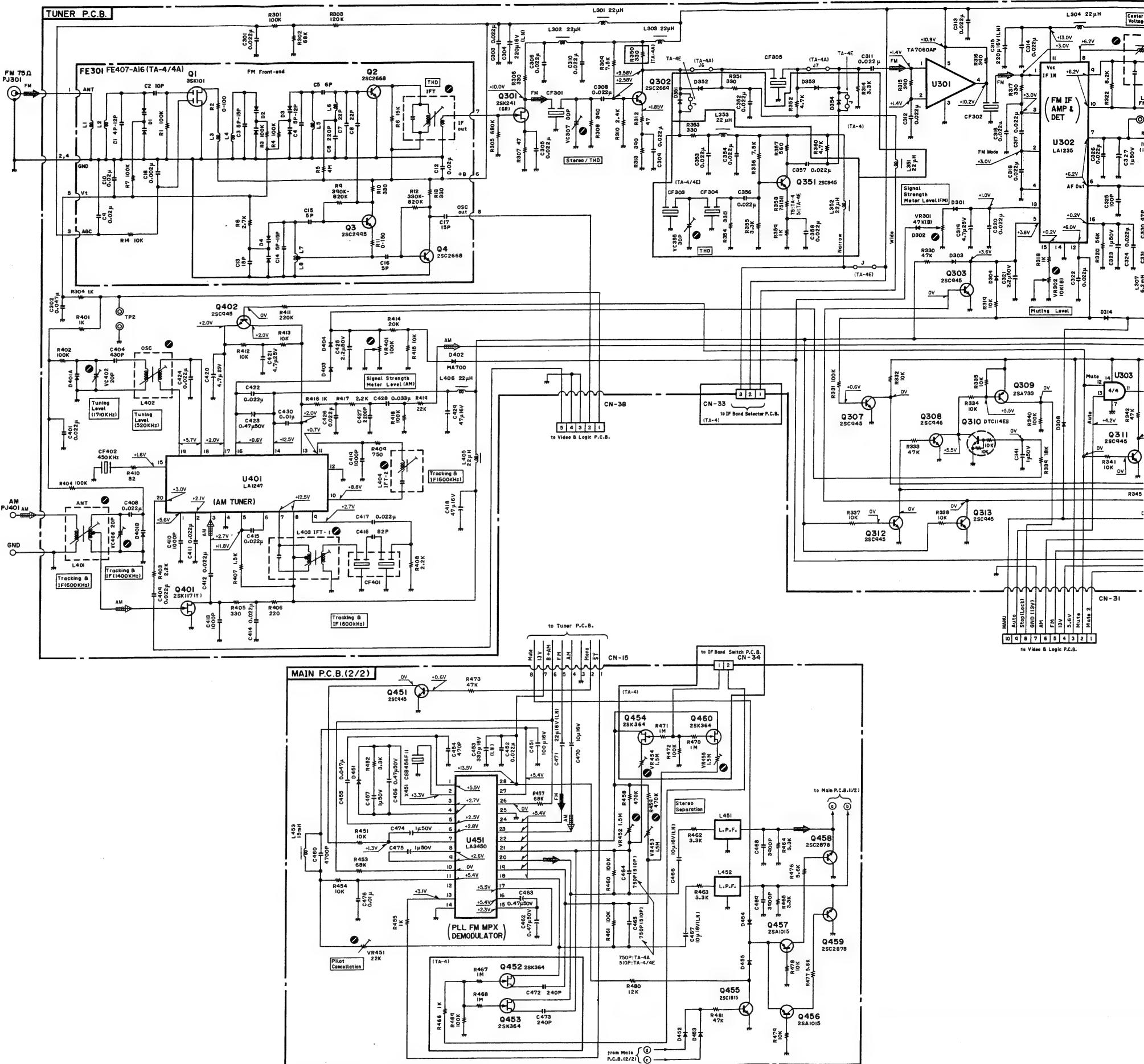
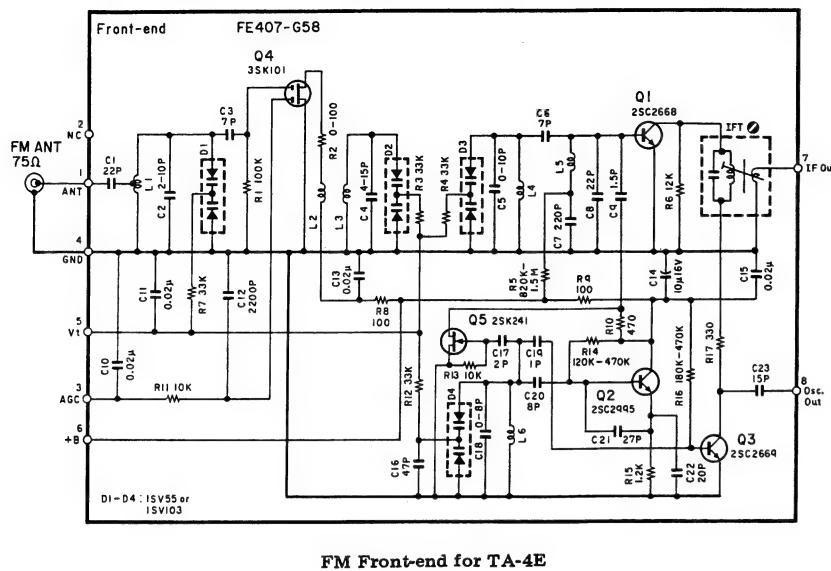


Fig. 7.2.1

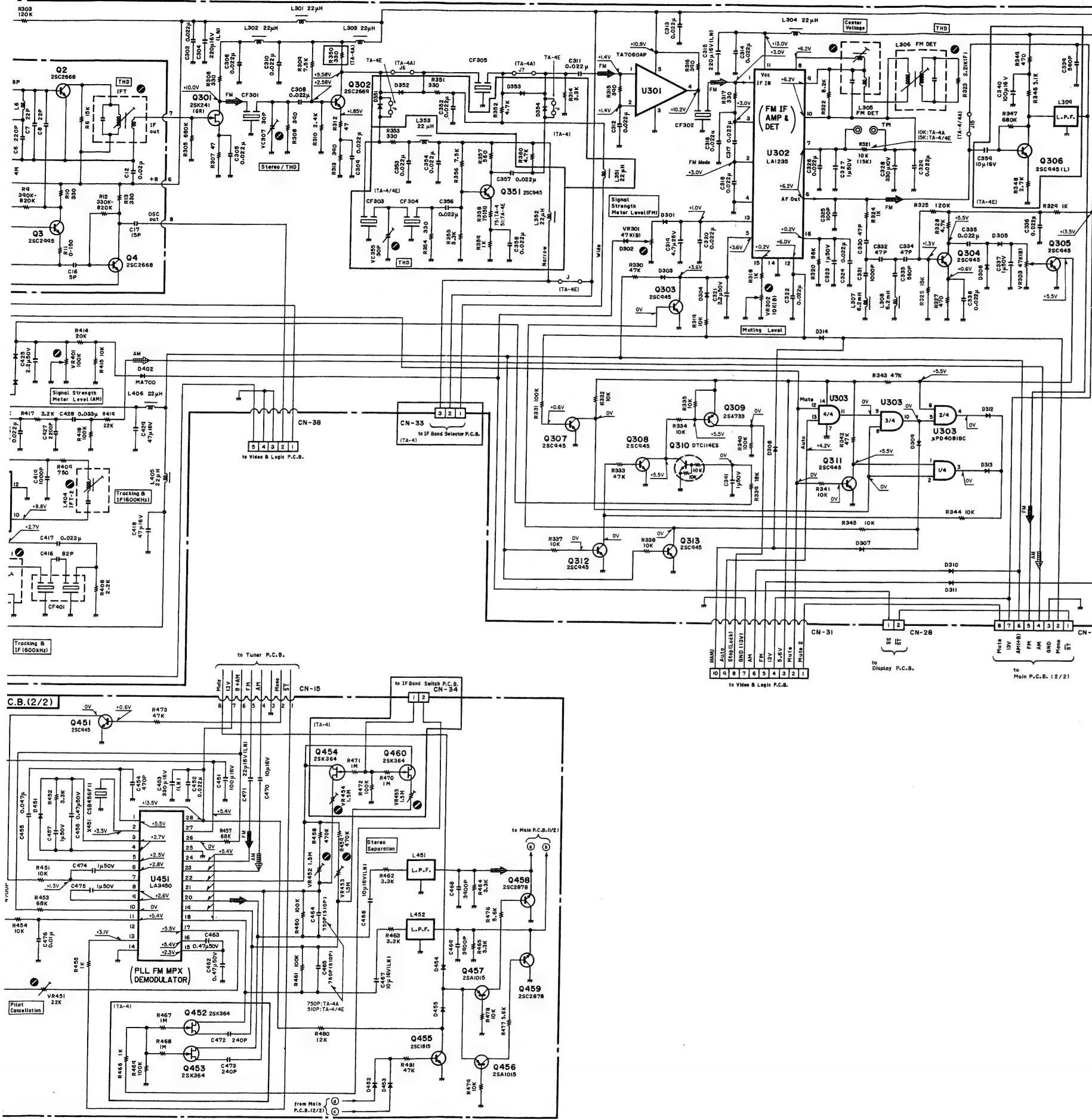
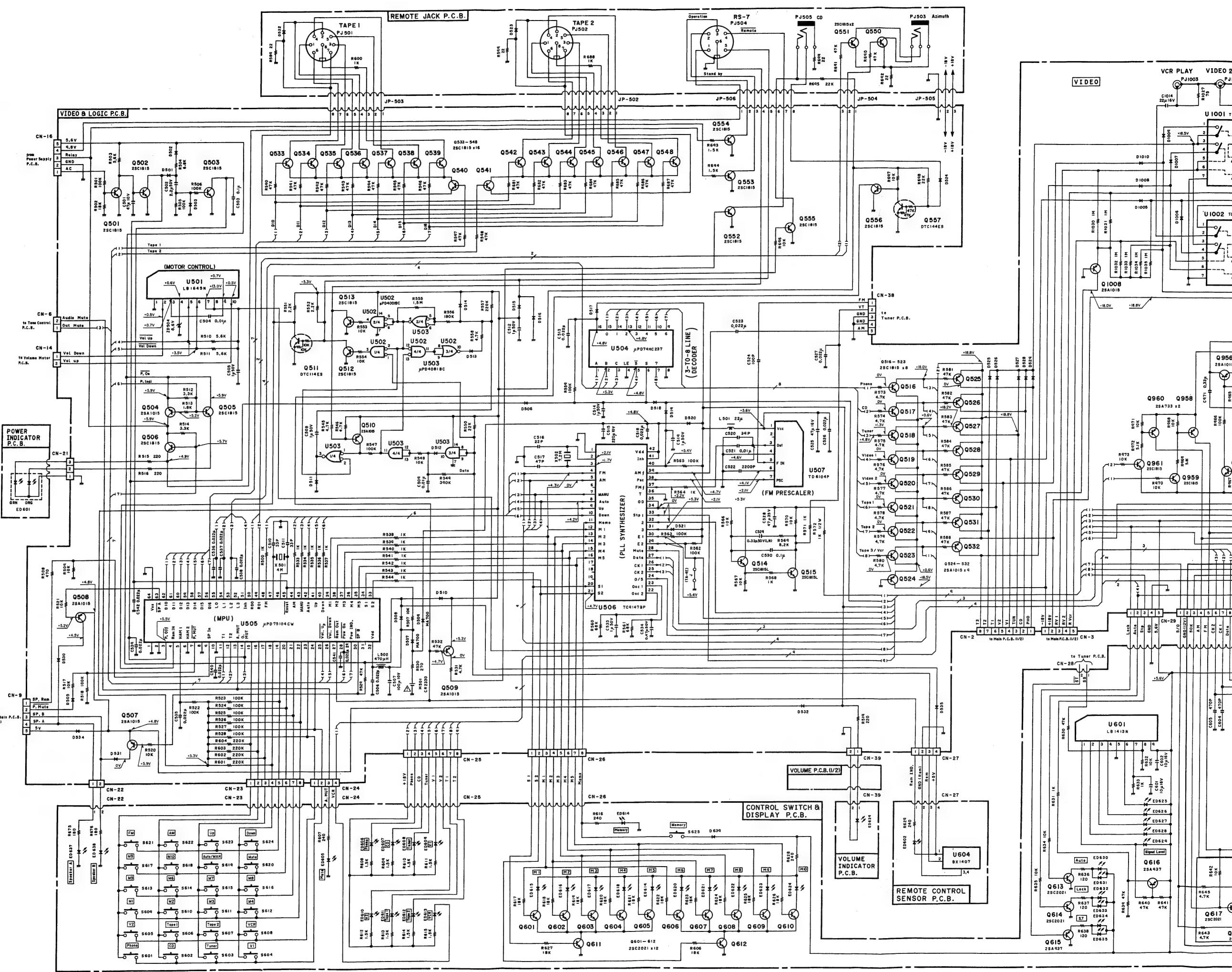


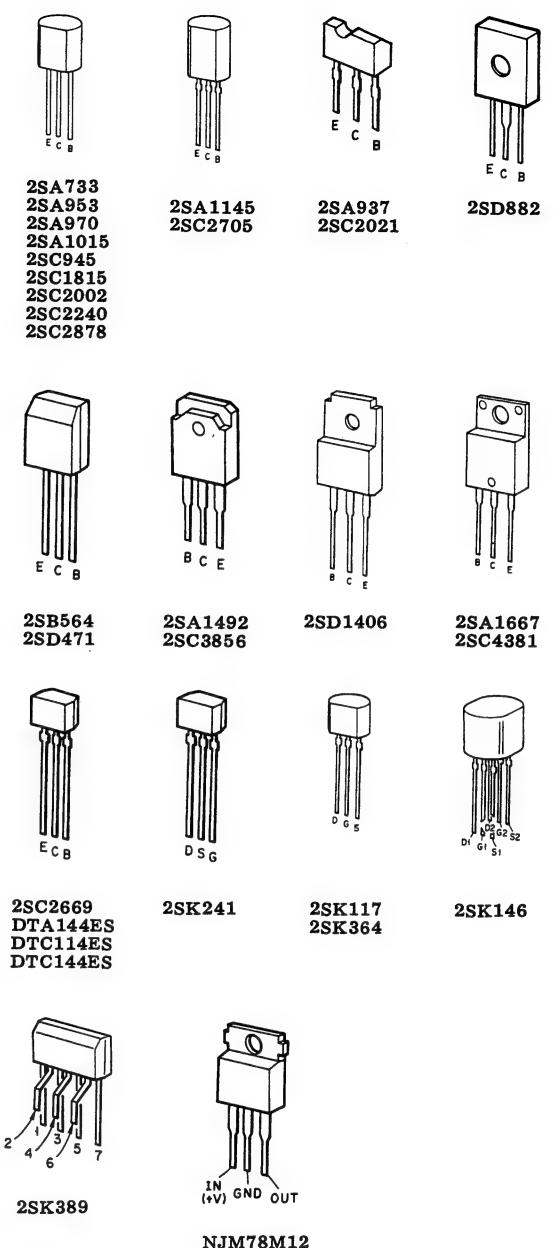
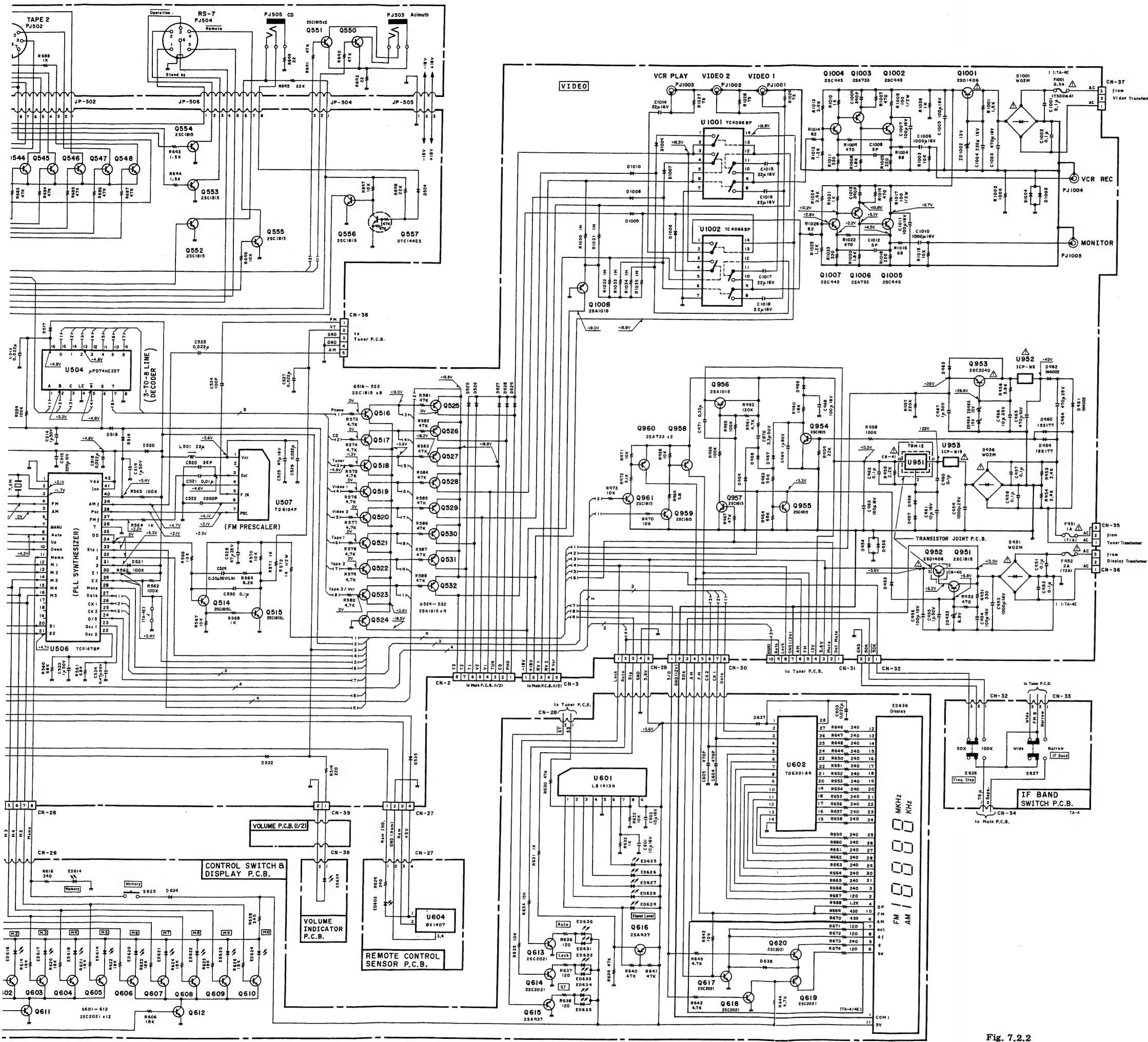
Fig. 7.2.1

Note

1. Diode is 1SS53, 1S1555 or 1SS176 unless otherwise specified.
 2. 2SA738, 2SA608SP, 2SA1048 and 2SA1175 are interchangeable with each other.
 3. 2SC945, 2SC536SP, 2SC2458 and 2SC2785 are interchangeable with each other.
 4. Voltage measuring conditions
 - With no input signal applied to the input terminals.
 - With no load connected to the speaker terminals.

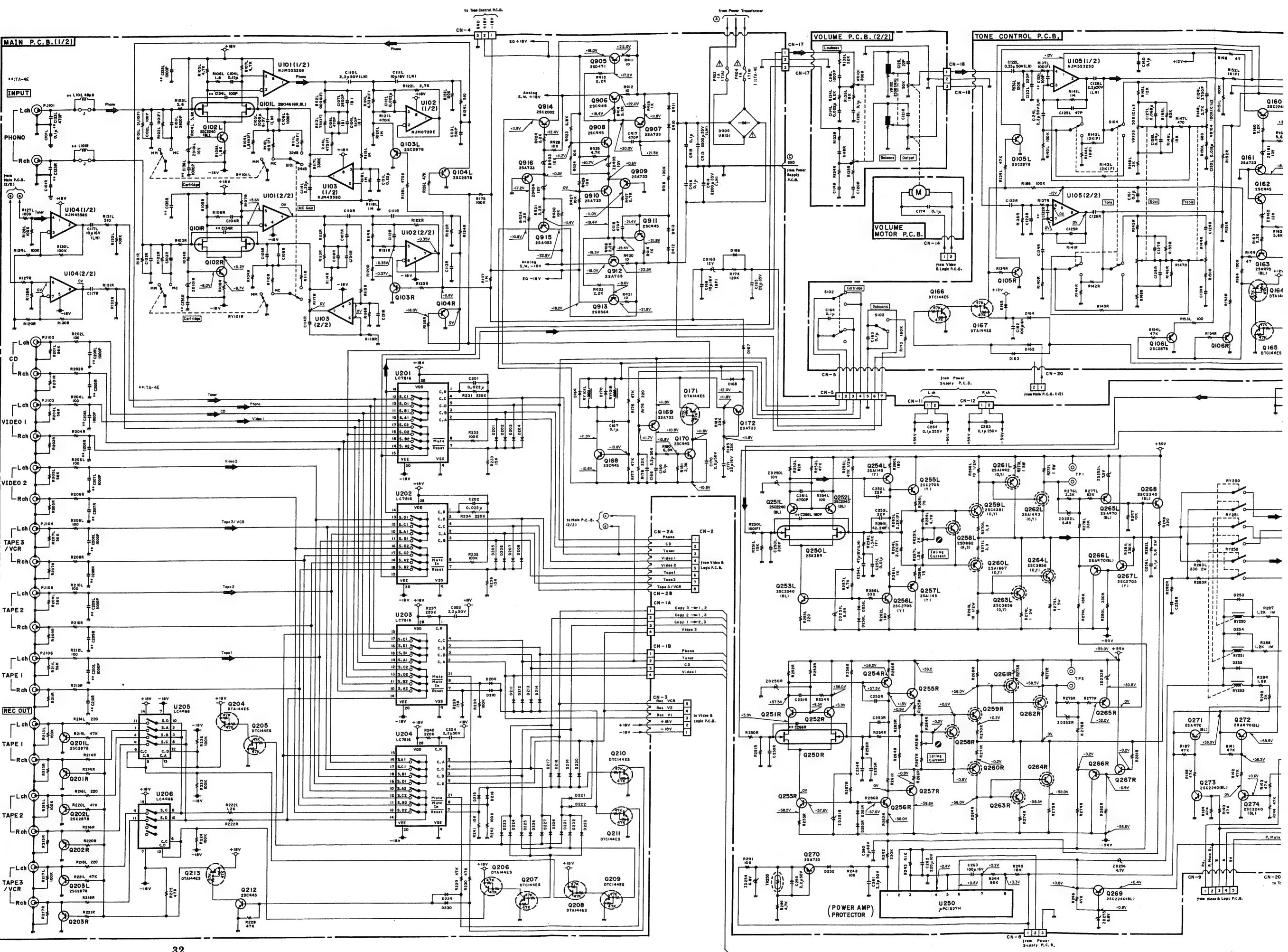
7.2.2. Video and Control Section

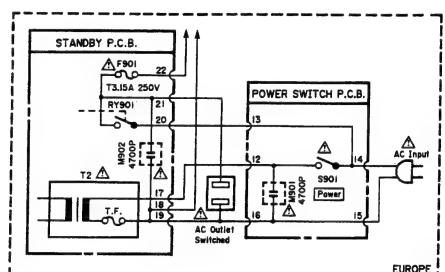
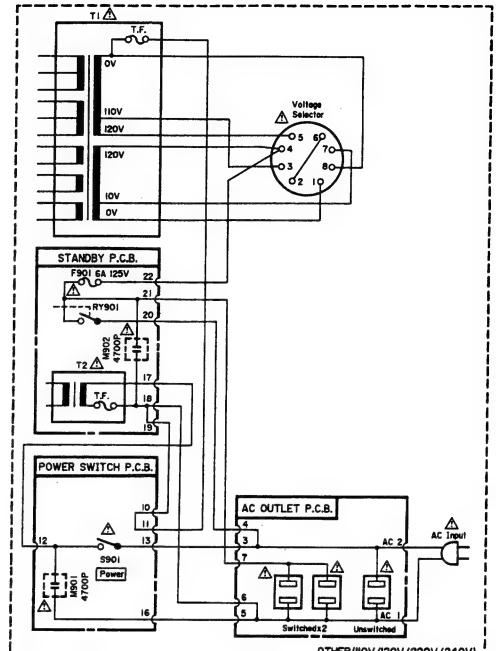
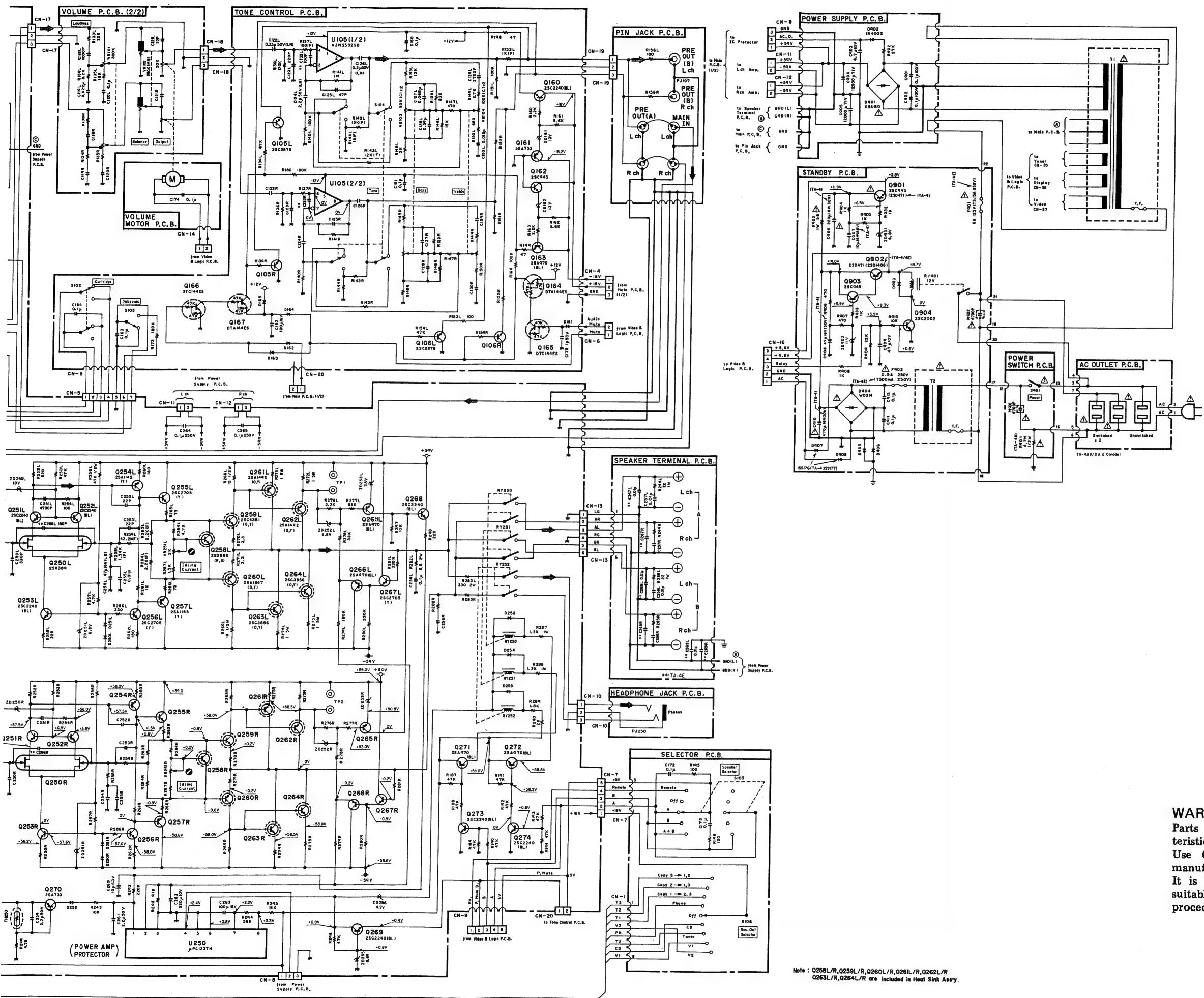




- Notes:**
1. Diode is 1SS53, 1S1555 or 1SS176 unless otherwise specified.
 2. 2SA733, 2SA608SP, 2SA1048 and 2SA1145 are interchangeable with each other.
 3. 2SC945, 2SC536SP, 2SC2458 and 2SC2785 are interchangeable with each other.
 4. Parts marked with ** indicate those for TA-4E.
 5. Voltage measuring conditions
 - With no input signal applied to the input terminals.
 - With no load connected to the speaker terminals.

7.2.3. Amplifier Section



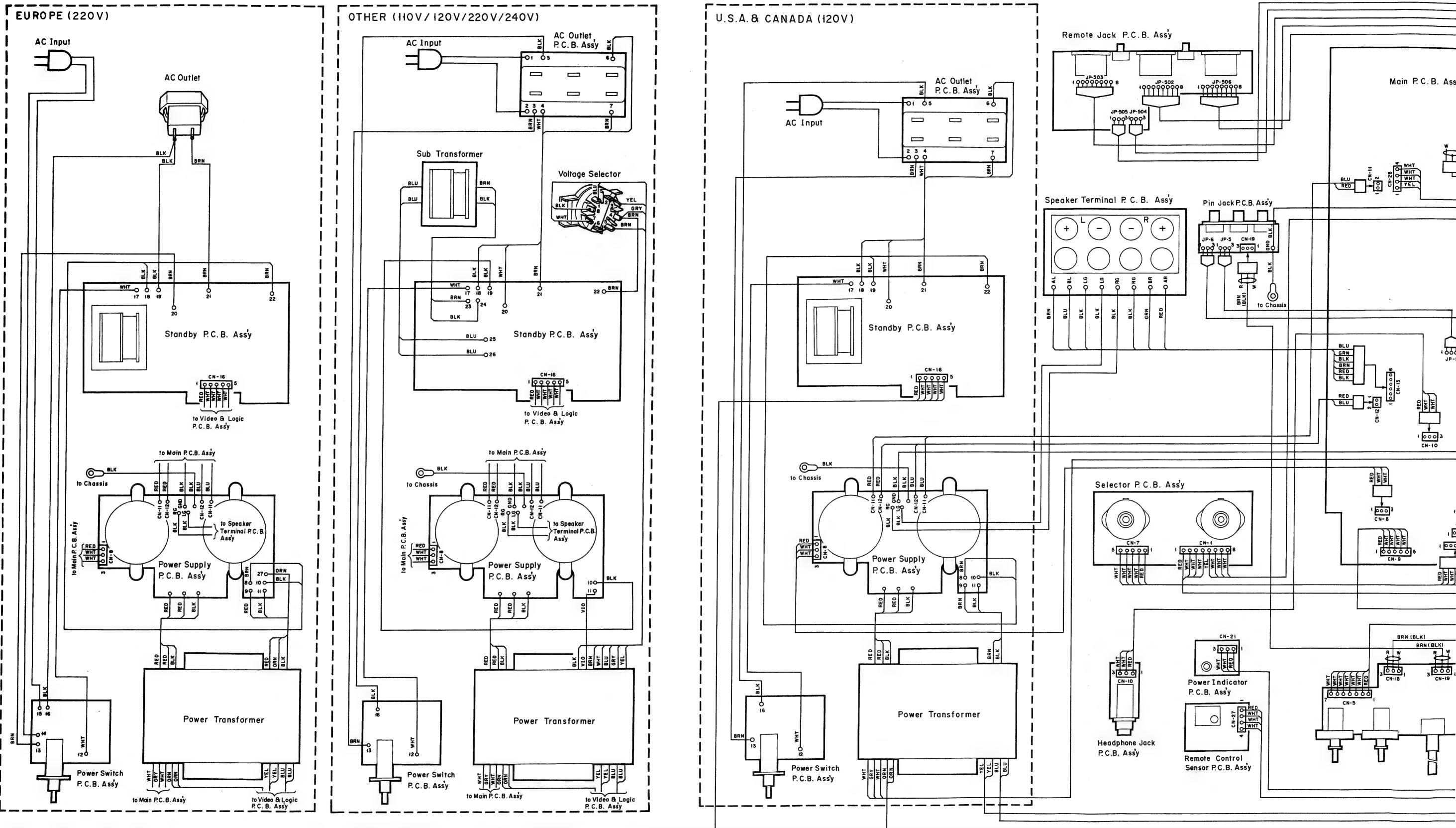


WARNING: Parts marked with the symbol  have critical characteristics. Use ONLY replacement parts recommended by the manufacturer. It is recommended that the unit be operated from a suitable DC supply or batteries during initial check-out procedures.

Note : Q258L/R,Q259L/R,Q260L/R,Q261L/R,Q262L/R
Q263L/R,Q264L/R are included in Heat Sink Ass'y

Fig. 7.2.3

8. WIRING DIAGRAM



Notes: 1. Table of wire colors

BRN — Brown
RED — Red
ORN — Orange
YEL — Yellow
GRN — Green

BLU — Blue
VIO — Violet
GRY — Gray
WHT — White
BLK — Black

2. Component side view of the P.C.B. is illustrated unless otherwise specified.

3. Wire tube color is shown in ().

Fig. 8

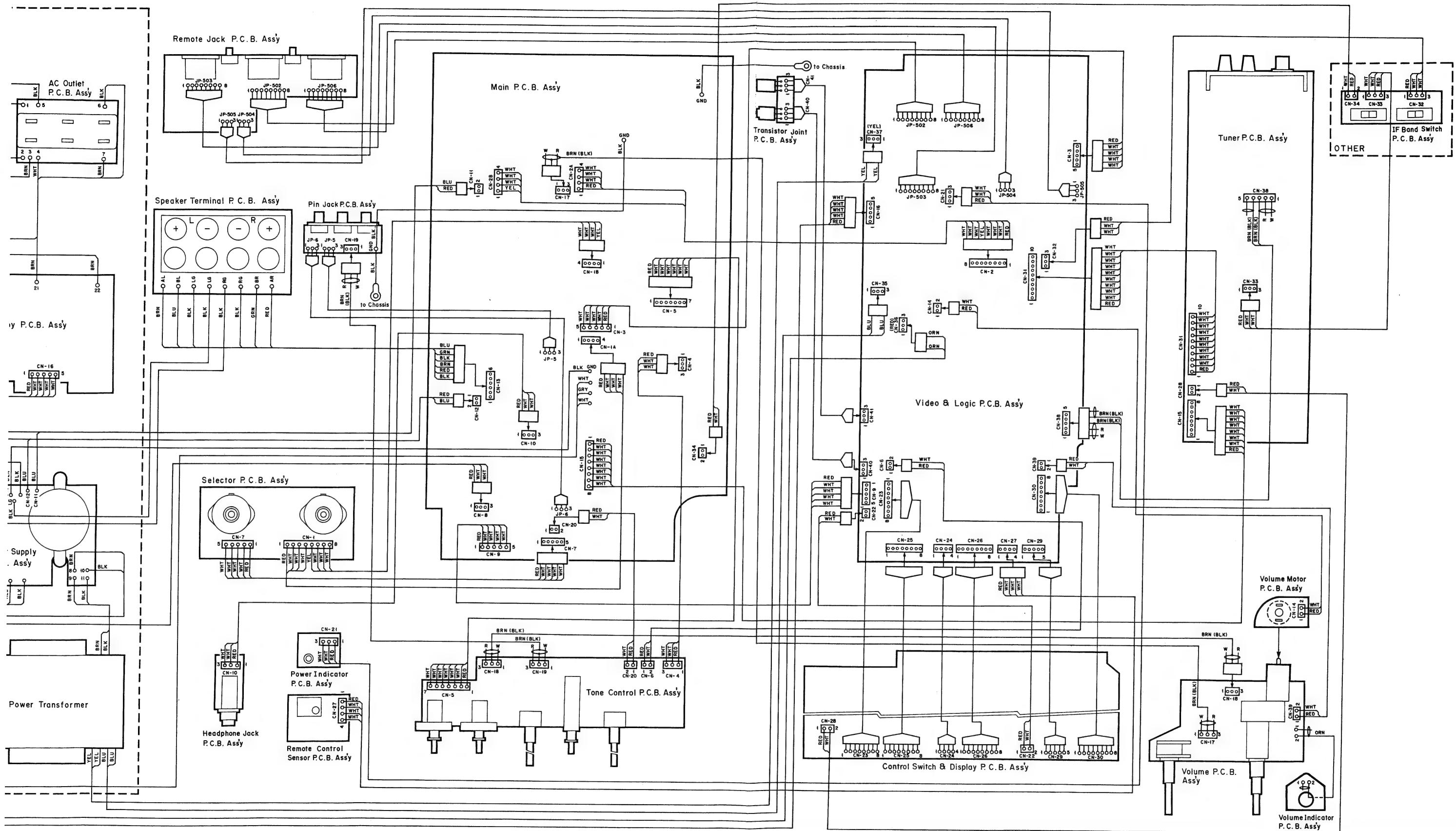


Fig. 8

9. BLOCK DIAGRAMS

9.1. Tuner Section

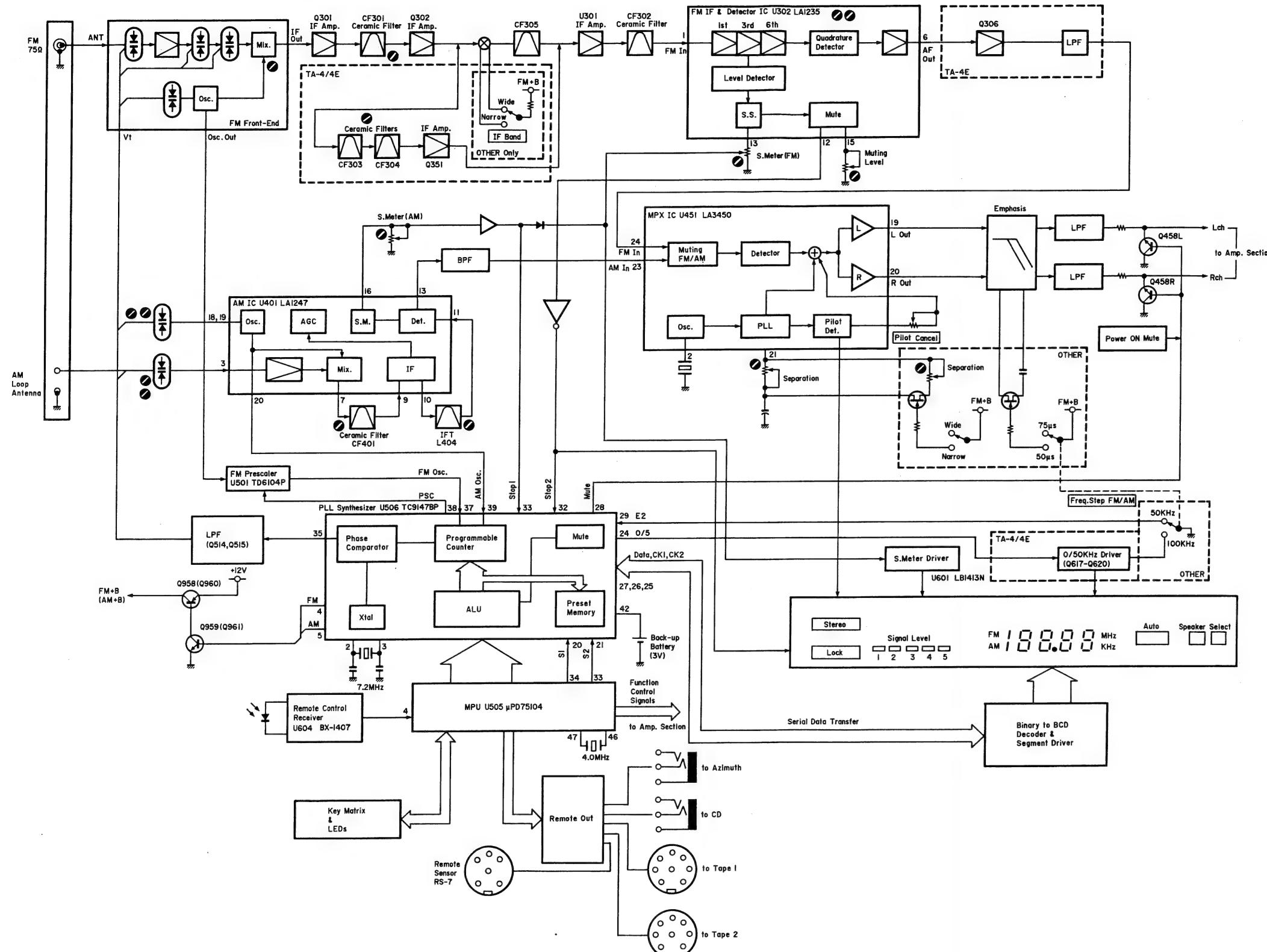


Fig. 9.1

9.2. Amplifier Section

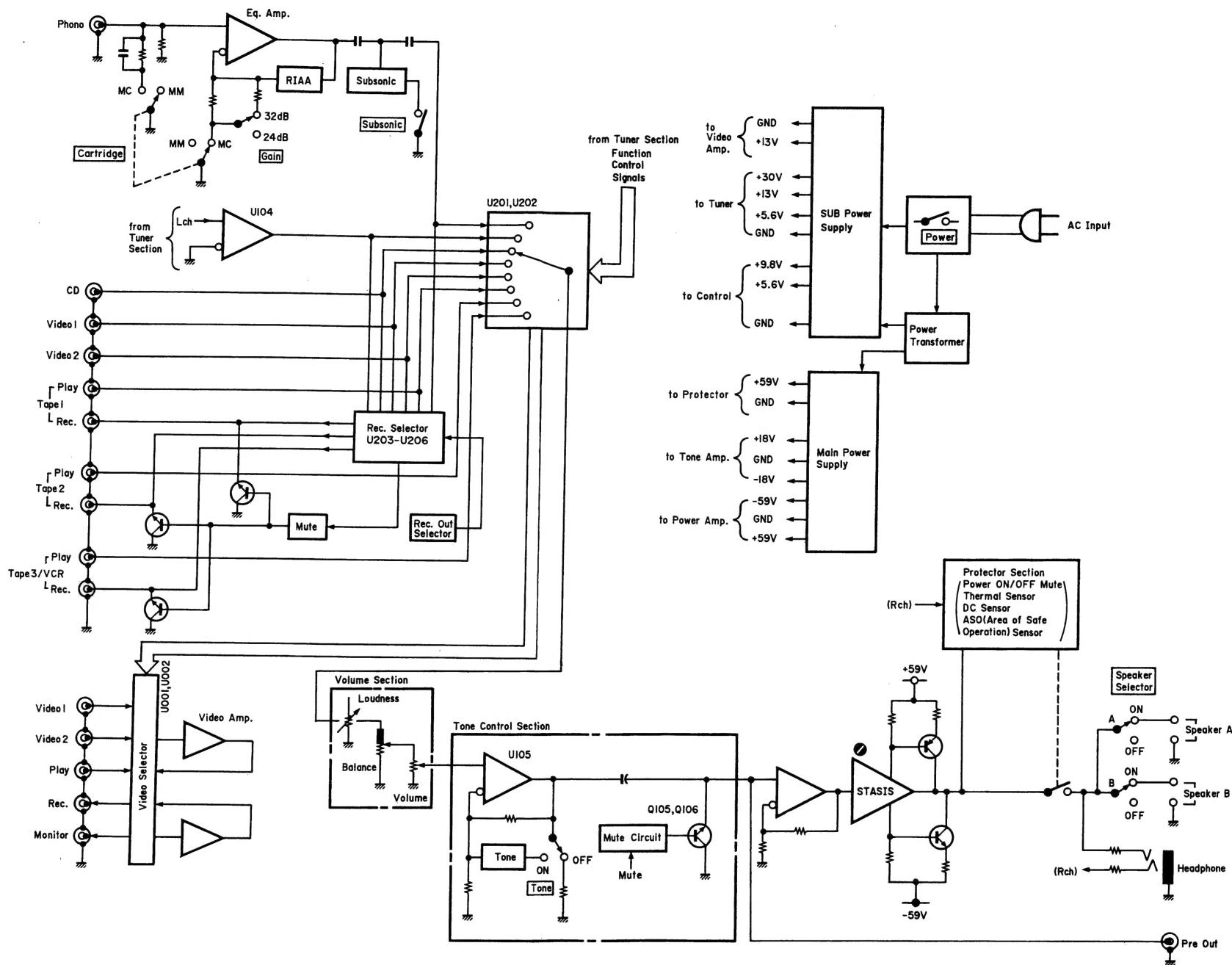


Fig. 9.2

10. SPECIFICATIONS

Power Amplifier Section

Note: Unless noted otherwise, specifications are in accordance with IHF-A-202 measured from any high-level input (CD/VIDEO/TAPE) to the speaker output.

Continuous Average Output	100 watts per channel into 8 ohms, both channels driven, 20—20,000 Hz, at no greater than 0.1% THD
Dynamic Output Power	132 watts per channel into 8 ohms 167 watts per channel into 4 ohms
Power Bandwidth	5—60,000 Hz 5—30,000 Hz (TA-4E)
Frequency Response	20—20,000 Hz; +0, -0.5 dB 20—20,000 Hz; +0, -1 dB (TA-4E) 5—85,000 Hz; +0, -3 dB 5—45,000 Hz; +0, -3 dB (TA-4E)
Signal to Noise Ratio	Better than 100 dB re Rated Power (A-WTD, Input Shorted) Better than 83 dB (IHF-A-202)
Total Harmonic Distortion	Less than 0.1% (8 ohms, Rated Power, 20 Hz—20 kHz)
Headphone Rated Output	234 mW (40 ohms)
Output Current Capability	28 A peak per channel

Preamplifier Section

Note: Unless noted otherwise, specifications are in accordance with IHF-A-202. Except for Sensitivity, S/N, Tone Control and Loudness characteristics (which are measured to the speaker outputs), measurements are made from the specified input to Rec. Out.

Sensitivity (for rated output)

Phono MC	60/160 μ V (Gain: 32/24 dB)
Phono MM	2.5 mV
CD/Tape/Video	150 mV
Main In	1.0 V
Sensitivity (for 1-watt output, IHF-A-202)	
Phono MC	6.0/16 μ V (Gain: 32/24 dB)
Phono MM	0.25 mV
CD /Tape/Video	15 mV
Main In	100 mV

Input Impedance

Phono MC	100 ohms
Phono MM	47 kohms
CD/Tape/Video	20 kohms
Main In	15 kohms

Maximum Input Level (1 kHz)

Phono MC	4.0/10 mV (Gain: 32/24 dB)
Phono MM	180 mV

Pre Output Level/Impedance

Record Output Level/	1.0 V/1 kohms
Impedance	

Total Harmonic Distortion (1 kHz, to Rec. Out, at 1 V)

Phono MC	Less than 0.007% (either gain)
Phono MM	Less than 0.005%

RIAA Deviation

Phono MC	30—20,000 Hz \pm 0.5 dB
Phono MM	30—20,000 Hz \pm 0.5 dB

Signal to Noise Ratio (to speaker output, IHF-A-202)

Phono MC	Better than 70 dB (either gain) Better than 68 dB (either gain) (TA-4E)
Phono MM	Better than 78 dB Better than 76 dB (TA-4E)

Tone Controls

Bass 20 Hz, ± 10 dB
Treble 20 kHz, ± 10 dB
Variable Loudness 20 Hz, +20 dB; 20 kHz, +6 dB
(re maximum attenuation:
-40 dB at 1 kHz)
Subsonic Filter (Phono only) . . . Cutoff Frequency 20 Hz, -12 dB/octave

Tuner Section

(1) TA-4 (Other) (See Note) & TA-4A

Note: Selector switch settings for Other Model

Frequency Step FM/AM: 100 kHz/10 kHz, De-emphasis: 75 μ s, IF Band: Wide

[FM Section]

Note: All RF levels in microvolts given re 300-ohm antenna input.

Modulation: Mono 100%, Stereo Pilot 9%, Stereo Audio Signal 91%.
All measurements made at Rec. Out Jack.

Frequency Range 87.5-108.0 MHz in 100 kHz steps

IHF Usable Sensitivity 11.0 dBf/1.9 μ V
(Mono)

50-dB Quieting Sensitivity

Mono 14.7 dBf/3.0 μ V
Stereo 37.5 dBf/41.1 μ V

Signal to Noise Ratio at 65 dBf

Mono Better than 82 dB
Stereo Better than 75 dB

Muting Threshold 30 dBf/17.3 μ V

Frequency Response 20-15,000 Hz ± 1 dB

Total Harmonic Distortion (1 kHz)

Mono Less than 0.07%
Stereo Less than 0.07%

Capture Ratio 2.0 dB

Alternate Channel Selectivity . . . 65 dB (± 400 kHz)

Stereo Separation at 1 kHz . . . Better than 50 dB

Spurious Response Rejection . . . Better than 90 dB

Image Rejection Better than 75 dB

IF Rejection Better than 80 dB

AM Suppression Better than 60 dB

[AM Section]

Note: Modulation — 400 Hz, 30%

Frequency Range 520-1,710 kHz in 10 kHz steps

Sensitivity 53 dB μ /m

Signal to Noise Ratio at 90 Better than 52 dB

dB μ /m

Total Harmonic Distortion Less than 0.5%

at 90 dB μ /m

Selectivity Better than 20 dB (± 10 kHz)

(2) TA-4 (Other) (See Note) & TA-4E

Note: Selector switch settings for Other Model

Frequency Step FM/AM: 50 kHz/9 kHz, De-emphasis: 50 μ s, IF Band: Narrow

[FM Section]

Note: All RF levels in microvolts given re 300-ohm antenna input.

Modulation: Mono 60%, Stereo Pilot 9%, Stereo Audio Signal 51%.

All measurements made at Rec. Out Jack.

Frequency Range 87.50—108.00 MHz in 50 kHz steps

IHF Usable Sensitivity (Mono) . 11.0 dBf/1.9 μ V

50-dB Quieting Sensitivity

 Mono 23.0 dBf/7.7 μ V

 Stereo 44.0 dBf/86.8 μ V

Signal to Noise Ratio at 65 dBf

 Mono Better than 72 dB (TA-4E)/78 dB (TA-4 (Other))

 Stereo Better than 67 dB (TA-4E)/68 dB (TA-4 (Other))

Muting Threshold 30 dBf/17.3 μ V

Frequency Response 20—15,000 Hz \pm 1 dB

Total Harmonic Distortion (1 kHz)

 Mono Less than 0.20%

 Stereo Less than 0.25%

Capture Ratio 2.0 dB

Alternate Channel Selectivity 70 dB (\pm 300 kHz)

Stereo Separation at 1 kHz Better than 40 dB

Spurious Response Rejection Better than 90 dB

Image Rejection Better than 75 dB

IF Rejection Better than 80 dB

AM Suppression Better than 60 dB

[AM Section]

Note: Modulation — 400 Hz, 30%

Frequency Range 522—1,611 kHz in 9 kHz steps

Sensitivity 53 dB μ /m

Signal to Noise Ratio at 90 Better than 52 dB

dB μ /m

Total Harmonic Distortion Less than 0.5%

at 90 dB μ /m

Selectivity Better than 20 dB (\pm 9 kHz)

General

Power Source 120, 220, 240 or 110/120/220/240 V AC, 50/60 Hz
(According to country of sale)

Power Consumption 425 watts max.

Convenience Outlets Switched (2 pcs.) + Unswitched (1 pce.) (TA-4 (Other) & TA-4A)
Switched (1 pce.) (TA-4E)

Dimensions 430 (W) x 125 (H) x 370 (D) mm
16-15/16 (W) x 4-15/16 (H) x 14-9/16 (D) inches

Approximate Weight 15.0 kg, 33 lbs. 1 oz.

Remote Control Unit (RM-4TA)

Principle Infrared Pulse System

Power Supply 3 V DC (1.5 V x 2)

Dimensions 64 (W) x 18 (H) x 176 (D) mm

2-1/2 (W) x 11/16 (H) x 6-15/16 (D) inches

Approximate Weight 140 g, 5 oz. (including batteries)

- Specifications and design are subject to change for further improvement without notice.
- STASIS manufactured under license from Threshold Corporation.
- STASIS is a trademark of Threshold Corporation.